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Infantry Fire in the Present War.*

By General Cherfils, French Army.

Particular attention is invited to the following article for the reason that it shows the importance of the rôle of infantry in the present war and the reliance that must be placed on that arm, if victory is to be achieved.—EDITOR.

BETWEEN the school of precision, which develops "fire to kill," and the school of rapid fire which, carried to an extreme, only results in the heresy of "fire to create fear," there is a common-sense school, that of "fire to conquer." Its means are to fire well and rapidly, its object to bring down the greatest number of men possible in the minimum of time.

Even after the Boer war, we did not comprehend the importance of fire. A peculiar attitude of mind caused us to admit, *up to the war of 1914*, that the domain of fire was reserved to the artillery. This theory, exaggerated, had been developed by the abuse of the Kriegspiel of German origin, from which the man, the rifle, and the terrain are all absent and in which the warlike spirit atrophies.

Now it is this spirit that develops the individual value of the combatant; it is this spirit which should make the man reckon more on the aid which he should give others than on the aid which he can receive from them. Our distorted mental attitude tended toward making the man the accessory of the cannon, the infantryman intervening only by numbers, the quantity and shock of bayonets, without regard for the professional qualities of the rifle shot. If the infantryman acted by fire, it was only to prolong the zone fire of the cannon.

*Translated for the INFANTRY JOURNAL from preface of *Le Tir pour Vaincre* by Commandant D'André. Written May 20, 1915.

The war of 1914 has cruelly proven to us that between the preparation of the attack by the artillery and the execution of this attack with the bayonet, a period and a zone intervene where the infantry should be supreme, if it knows how to deliver a fire that kills.

A calm and cool rifle shot, trusting in his skill, who knows that his adversary will never arrive at a point where he can attack him with the bayonet, the rifleman who can bring down ten men with ten bullets, instead of killing only one with the bayonet, the man in whom quality has been trained without too much regard for quantity, this man is the king of the battlefield; he rules it through his intelligent fire, his aimed bullets, which the accurate rifle has cured from being wild; he rules it by the work which completes and continues the preparation of the artillery and which will make easy the effort of the bayonet against an enemy already three-quarters annihilated.

To be sure, in this siege warfare, the rôle of the artillery takes on considerable importance, and only the large cannon can crush casemates buried several meters under the earth. To it falls almost the entire task of the preparation against an enemy who is at the same time too close and invisible and who thus escapes both the 75-millimeter shell and the bullet of the rifle. *But as soon as this zone of siege warfare is crossed and space is opened, the bullet will recover its field of action beyond that covered by the 75-millimeter gun, the cannon of maneuver warfare.*

Modern victory requires the simultaneous and complete conjugations of three verbs: to will, to be able, to know. To will is the ardent courage, the irresistible determination without which the two other forces are without motive power and without life. But this magnificent verb is not sufficient; and the month of August, 1914, proved it to us. To be able is the power of organization of matériel and armament in which Germany had for an instant the superiority which we have taken from her. To know is the complete preparation of the human factor through professional instruction. We lacked this knowledge for a long time, not in respect to our commanders, who have shown themselves to be superior, but in respect to the executors, who have too long forgotten that an accurate weapon should insure an accurate fire.

The complete weapon of the infantryman is a rifle with a bayonet, the characteristic emblem of the royal arm of the service, the only one which combines in the highest degree the two eternal methods of action, fire and shock. But the bayonet is only added to the rifle as the shock follows fire, the latter preparing for the former.

The Citizen Soldier.*
His Duty to the State.

By Major I. L. Hunt, U. S. A.

IN order to determine what we must have in the way of a military force in America, it is necessary for us to determine what constitutes our military problem. I shall therefore endeavor briefly to outline the salient features of our military problem and then take up the question of the nature of the forces we have to meet it.

It is not necessary in discussing this subject to dwell at all on the righteousness of peace or the abhorrence of war. Military men, many statements to the contrary notwithstanding, look upon war in the same way as sanitarians look upon epidemics. It is the duty of statesmen to keep us out of war. It is the duty of soldiers to restore peace when the efforts of statesmen have failed, but war cannot save a nation which in peace falls into decay.

Ruskin has said: "There are five great professions working for the state; it is the duty of the teacher to instruct it, of the physician to keep it in health, of the lawyer to enforce justice, the merchant to supply it, and the soldier to defend it, and the duty of all these on due occasion to die for it."

One of the errors made in believing that universal peace is almost within our grasp, has arisen, strange as it may seem, from the St. James Version of the Bible, in the songs which the shepherds heard heralding the birth of the Prince of Peace. This has been translated, "Glory to God in the highest and on earth peace, good will toward men." The revised versions of the Scripture have translated it differently, so that it reads: "Glory to God in the highest, and on earth peace among men in whom He is well pleased," while the Douay (Roman Catholic) version reads: "Glory to God in the highest; and on earth, peace to men of good will;" that is to say, there can only be peace on earth among men of good will, and unless we are willing to assume that the kingdom of God dwells on earth in the hearts of all men, universal

*Lecture delivered at the Baltimore camp of instruction for business men, Sept. 26, 1915.

peace in our present state of development is merely a will-of-the-wisp.

Why do we require any military force in America? First in order to enforce our laws. This is primarily a function of the police power of the state. To resort to military force until every effort to enforce the law by means of the civil police has failed, is a gross misuse of the military arm of the Government, either State or Federal. The fact that there are hundreds of instances in our own history of the necessity of a resort to such force does not in any degree lessen the force of this statement. Practically all of these resorts to force could have been obviated by the maintenance of proper police force in the various States. The proper force for this purpose, as we shall note later, is a State constabulary and not a State militia. Secondly, we require a military force for international police purposes. We have become so accustomed in the last two decades to having our Federal police force used for this purpose that our people hardly realize the extent to which this has become necessary. Since 1898, we have landed troops of either the Army or Marine Corps, under circumstances which to us seemed necessary, in violation of the national sovereignty of Spain, twice of China, once of Cuba, and in Nicaragua, Mexico, Haiti, Colombia, and Panama. We have at the present moment armed forces on the soil of four sovereign states. The fact that these are all weak powers does not alter the fact that the national sovereignty of these various countries was violated under circumstances which we believe were necessary for ourselves, for themselves, and for the world in general. The third and most important purpose in maintaining an army is that we may, in the event of a disaster to our fleet, be able to defeat the maximum number of troops which any first-class power can transport to our shores in one expedition. If we take such measures as will insure our safety in this respect, naturally we shall have on hand ample forces for any of the other purposes for which we maintain an army. The General Staff of the Army is prepared to tell the country the number of soldiers it must have for this purpose whenever the country evinces a desire for the information.

Such being the nature of our military problem, what is the nature of the forces we have with which to solve it? These may be divided into three classes, which we shall designate respectively

as trained, semi-trained, and untrained men. The first or trained element we call the Regular Army, and as there has always existed in this country considerable prejudice against a standing army, it may be well to analyze the reasons for this. Scientists who believe in the theory of evolution, have advanced the idea that nightmare is a brain storm descended from our ancestors when their nocturnal slumbers were disturbed while perched in the trees of the primeval forests. The existing prejudice against a regular army in America is similar to nightmares and is as illogical as it is absurd.

Three hundred years ago, soldiering was a profession, men hired themselves to kings and potentates just as they do today to capitalists; and as we in this country have at times looked upon the Irish, the Chinese, and the Italians as excellent unskilled labor, so in those days, the Swiss and the Hessians were known as excellent soldiers. The bodyguard of the Bourbon kings of France was constituted of Swiss soldiers down to the time of the French Revolution. It was merely a result of the spirit of the times that several thousand Hessians were brought to America in the employ of the British, a fact which today arouses the ire of every American school boy. The system lasted almost to a time within the memory of men now living. During the Crimean War, England offered to purchase the service of the Sardinian troops, who had acquired the reputation of being rugged soldiers. It was the refusal of Count Cavour to hire the Sardinian army to England and the acceptance of his offer to become an ally in the Crimean War which gave birth to modern Italy. Our prejudices against a standing force have been inherited largely from England, where the professional soldier was used by the Crown for centuries to resist the spread of the new principle of government which we now call democracy. It was later used by the King in his struggles with the Commons over the question of religion; but the revolution of 1688 and the adoption of the Bill of Rights not only gave birth to England's present regular army but introduced a principle in government which removed forever any danger from a standing military force. This principle was that the standing army, instead of being hired by the king and paid out of his private purse, became dependent upon Parliament and the exchequer. The principle was exemplified a century later in the French Revolution when the French took the army

out of the hands of their Bourbon king and made it a paid national force. The change was not appreciated then and is understood by but few now. Before the principle became thoroughly established, France surrendered her liberty for a time into the hands of the Corsican, but with this single exception, there has never been an instance in history since this principle of government was adopted, when a disciplined military force became a menace to the state. The antagonism, however, toward a standing army was intensified in America on account of the presence in the colonies of British regular troops, which the colonies were taxed to support without their consent. The result of this was that at the time of the adoption of our Constitution, five States, namely, Pennsylvania, North Carolina, New Hampshire, Massachusetts, and Maryland, had statements in their Bill of Rights that standing armies are dangerous to liberty. The presence of Washington and men of equal foresight in the Constitutional Convention prevented any such anomaly from being included in our present Bill of Rights. Twice since the inauguration of the Republic, Congress almost eliminated the Regular Army due to the failure to pass an appropriation bill on account of political reasons with which the Army itself had nothing to do. There is no more danger today that a standing army will be untrue to the government which supports it than there is that the crew of a transatlantic liner will take charge of the ship and become international pirates. Later date prejudices against an army center themselves around other reasons, among which are:

1. Its cost. This is due largely to the fact that appropriations for a military force must spring primarily from patriotism, for there are few votes to be obtained by the use of such appropriations, except here and there some local demand which fastens an iniquitous system of army posts upon our military policy. The War Department, however, must share in the blame for the lack of policy in this matter in failing to have a comprehensive scheme for the distribution and housing of our Army.

2. The belief that soldiers are non-producers. This is purely a narrow and provincial belief and is entirely refuted, if we accept Ruskin's analysis of the five great professions.

3. Some believe that armies are undemocratic. Life everywhere is made up of two classes, those who command and those who obey. This is true in the business world no less than

in the profession of arms. If we admit that a system is undemocratic which men can voluntarily enter and leave as they choose, certainly it will be difficult to explain why a system such as Switzerland enjoys, which bears equally on all citizens, can be classed as lacking in democracy.

4. The remaining great fear of a military force arises from the belief on the part of labor that it will be used for their oppression. If we assume that civil disorder must in every case arise from a resort to the strike and the boycott on the part of labor to enforce its demands, then labor should use its best efforts to see that proper civil police forces are maintained in the form of State constabularies in order that a resort to military force may not be necessary.

We have thus disposed of all the arguments which can be directed against a standing military force. Our second or semi-trained asset is the Organized Militia. Our first military weakness has always been that the Regular Army was too small for the purpose for which it was maintained. Our second military weakness has always been the failure to maintain the well-regulated militia mentioned in the Constitution. The Organized Militia constitute the finest citizens of our land. They are the only ones, aside from a few business men like yourselves who have this year voluntarily accepted some military training, that are willing to give their time and frequently their money to serve their country. It was the ungrounded fear of a regular army which led the founders of the Constitution to provide for an organized militia. In a vague way, they thought the time might come when the individual citizens with arms in hand would have to rally around some elected leader to defeat the armed force of the Federal power, as they themselves had done on that April day in 1775 when the farmers of Massachusetts fired the shot heard around the world. It was the fear of the Federal power which induced them to place the control of the militia in the States. This was a fatal weakness and has cost us untold lives and untold treasure. America is a nation and not a confederation of forty-eight allies.

The founders were farsighted men but not omniscient. For proof of this, we need only note the fact that the failure to define accurately the relation between the States and the Federal power almost resulted in the wreck of democracy in the new world half

a century later; and the innumerable revolutions in Latin America, where people less practical than ourselves in government have endeavored to copy our system, show that there are very many defects in our Constitution which we seldom realize. We have, for example, completely ignored the method of electing a President prescribed in the Constitution. This is not surprising when we consider that the men who rode to Philadelphia on horseback or by coach through the wilderness, never saw a steamship or a locomotive and never heard of a trust or a syndicate. To indicate how impractical the system they devised for an organized militia is, let us consider a similar system as adopted by Mr. J. J. Hill for his transcontinental railroads. Under this system, the Governors of Minnesota, Dakota, Montana, Idaho, and Washington would each appoint his division superintendents and station agents, and each State would provide the kind of rolling stock which it believed necessary for its own purposes. Minnesota would want Pullman cars that her thrifty population might attend the county fairs. Dakota would build box cars so that her wheat could get to Duluth. Montana would construct flat cars so that her lumber could reach Chicago and the East. Idaho might say she needs none and will not provide any. This was the position of Delaware in regard to her militia in 1861 and is the position of Nevada at the present moment, yet the two senators from each of these States exercised then and exercise now as great influence by their votes alone as those of Maryland, Pennsylvania, or New York with their excellent militia. To move a train across the continent would require the cooperative efforts of all the governors and state legislatures of the States through which it would have to travel. Is there any business man here present who believes that he could get five minutes of Mr. Hill's time for the purpose of recommending such a system to him? The principles of a State-controlled militia are so irreconcilable with an efficient military policy for the nation that it should be rejected at the earliest possible moment by people as practical in government as ourselves. Bear in mind it is the system that is to blame and not the fine citizens who compose the Organized Militia. On paper today, we have 120,000 semi-trained men in the Organized Militia. It is variously estimated that from fifty to seventy-five thousand of these could be relied upon to respond for Federal duty in case, let us say, the necessity arose of remov-

ing the international nuisance on our southern frontier. If this system were federalized completely with the same men it has now, the Federal Government would not be in any doubt as to whether it could count upon fifty or seventy-five thousand semi-trained men but would know that it could rely upon 120,000. The urgent reform in this matter is one that can never come from above. The States themselves must voluntarily surrender their control over the Organized Militia, if this important reform in our military policy is to be effected and the militia be maintained under the Federal power to raise and support armies. It can not for political reasons be imposed on the States by the Federal Government. Nothing which patriotic men could do at the present moment would be of more value to our military policy than for a convention of governors and influential officers of the Organized Militia to ask Congress to forsake now a system which has failed us in every war since the formation of our government.

Our third military asset in men consists of the untrained element known as the unorganized militia. The Regular Army and the Organized Militia comprise approximately 200,000 out of a total available military strength of fifteen and a half million. Of this fifteen and a half million, Baltimore has approximately 50,000 citizens of military age not exempt by law from service. Of this 50,000, perhaps 2,000 have this year received military instruction in this camp. What about the other 48,000? Here lies our greatest military problem, which brings us to consider in a broad way present American tendencies.

Since the beginning of time, there have been two great forces at work in the world, one which demands freedom of the individual, the other, duty to a superior. This was first exemplified in the history of religion. For fifteen centuries after the birth of Christ, men accepted the principle of duty as imposed by the Church. Due to the invention of paper and of printing, the Church ceased to have a monopoly of thought, and men began to demand the right to interpret the Scripture for themselves. Here began a great struggle for freedom in religious thought. The Thirty Years' War in the middle of the 17th Century, which made a desert of what is today modern Germany, started these two forces on diverse roads. Few people realize that 15,000,000 Germans died in this war that we might enjoy religious freedom. Immediately, however, when men had ob-

tained the right to think for themselves, an innumerable number of creeds arose, and freedom began its logical movement toward anarchy. In government, these two forces began to manifest themselves seriously in the 17th and 18th Centuries when democracy commenced to make itself felt. Duty to a superior was the creed of the feudal state, and as the kings saw that their future power over their subjects lay in succeeding to the position formerly held by the feudal lords, they aggrandized to themselves the power of government which was so well exemplified by the Bourbon who remarked, *"L'état, c'est moi"*—"I am the state." England struggled for centuries against this power and finally wrested it from its monarch in the revolution of 1688. It was settled for all time by the inauguration of cabinet government under Walpole during the reign of their first Hanoverian king, George I.

The constant tendency of freedom toward anarchy was well exemplified in the history of France following the revolution of 1789. We inherited the English idea of freedom rather than the feudal idea of duty. Men are realizing now as never before that we have gone too far on the road to individual freedom and neglected too much our duty to the state. Successful government must ever be a compromise between these two ideas. Duty to the state carried to its logical conclusion submerges the individual and results in socialism. Freedom, as we have said, tends always toward anarchy. It is because we have embraced the principle of individual freedom as the corner stone of government that neither socialism nor militarism can obtain a foothold in America. It is for us at the present time to retrace our steps on the road of individual freedom and learn again the duty of serving the state. Nothing can bring this about more effectively than the compulsory military service of the youth of the land in a national militia.

The first plan for training the citizen soldier was submitted to Congress by Washington in 1790. It may surprise some of our pacificist friends to know that the gentleman they are taught to revere as the Father of his Country proposed to adopt here in democratic America compulsory military service. The following extracts are from the report of General Knox, his Secretary of War, which Washington endorsed and forwarded to Congress, January 21, 1790:

But it is at the same time acknowledged, that unless a republic prepares itself by proper arrangements to meet those exigencies to which all states are, in a degree, liable, its peace and existence are more precarious than the forms of government in which the will of one directs the conduct of the whole for the defense of the nation.

A government whose measures must be the result of multiplied deliberations, is seldom in a situation to produce *instantly* those exertions which the occasion may demand; therefore it ought to possess such energetic establishments as should enable it, by the vigor of its own citizens, to control events as they arise, instead of being convulsed or subverted by them. . . .

The strength of the government, like the strength of any other vast and complicated machine, will depend on a due adjustment of its several parts. Its agriculture—its commerce—its laws—its finance—its system of defense, and its manners and habits, all require consideration and the highest exercise of political wisdom.

It is the intention of the present attempt to suggest the most efficient system of defense which may be compatible with the interests of a free people; a system which shall not only produce the expected effect, but which in its operations shall also produce those habits and manners which will impart strength and durability to the whole government. . . .

First. Either efficient institutions must be established for the military education of the youth; and that the knowledge acquired therein shall be diffused throughout the community, by the mean of rotation. Or,

Secondly. That the militia must be formed of substitutes, after the manner of the militia of Great Britain.

If the United States possess the vigor of mind to establish the first institution, it may reasonably be expected to produce the most unequivocal advantages. A glorious national spirit will be introduced, with its extensive train of political consequences. The youth will imbibe a love of their country, reverence, and obedience to its laws; courage and elevation of mind; openness and liberality of character, accompanied by a just spirit of honor; in addition to which, their bodies will acquire a robustness, greatly conducive to their personal happiness, as well as the defense of their country; while habit, with its silent but efficacious operations, will durably cement the system. . . .

The expense attending an energetic establishment of militia may be strongly urged as an objection to the institution. But it is to be remembered that this objection is levelled at both systems, whether by rotation or by substitutes. For if the numbers are equal, the expense will also be equal. The estimate of the expense will show its unimportance, when compared with the magnitude and beneficial effects of the institution.

But the people of the United States will cheerfully consent to the expenses of a measure calculated to serve as a perpetual barrier to their liberties; especially as they well know that the disbursements will be made among the members of the same community, and therefore can not be injurious.

Every intelligent mind would rejoice in the establishment of an institution under whose auspices the youth and vigor of the constitution would be renewed with each successive generation and which would appear to secure the great principles of freedom and happiness against the injuries of time and events. . . .

The following plan is formed on these general principles:

First. That it is the indispensable duty of every nation to establish all necessary institutions for its own perfection and defense.

Secondly. That it is a capital security to a free state for the great body of the people to possess a competent knowledge of the military art.

Thirdly. That this knowledge cannot be obtained in the present state of society but by establishing adequate institutions for the military education of youth; and that the knowledge acquired therein should be diffused throughout the community by the principles of rotation.

Fourthly. That every man of the proper age and ability of body is firmly bound by the social compact to perform personally his proportion of military duty for the defense of the state.

Fifthly. That all men of the legal military age should be armed, enrolled, and held responsible for different degrees of military service.

And sixthly. That agreeably to the Constitution, the United States are to provide for organizing, arming, and disciplining the militia; and for governing such part of them as may be employed in the service of the United States; reserving to the States respectively the appointment of the officers and the authority of training the militia according to the discipline prescribed by Congress. . . .

The vigor and importance of the proposed plan will entirely depend on the laws relative thereto. Unless the laws shall be equal to the object and rigidly enforced, no energetic national militia can be established.

If wealth be admitted as a principle of exemption, the plan can not be executed. It is the wisdom of political establishments to make the wealth of individuals subservient to the general good and not to suffer it to corrupt or attain undue indulgence.

It is conceded that people, solicitous to be exonerated from their proportion of public duty, may exclaim against the proposed arrangement as an intolerable hardship; but it ought to be strongly impressed that while society has its charms, it also

has its indispensable obligations. That to attempt such a degree of refinement as to exonerate the members of the community from all personal service is to render them incapable of the exercise, and unworthy of the characters of freemen.

Every state possesses not only the right of personal service from its members but the right to regulate the service on principles of equality for the general defense. All being bound, none can complain of injustice on being obliged to perform his equal proportion. Therefore, it ought to be a permanent rule that those who in youth decline or refuse to subject themselves to the course of military education established by the laws, would be considered as unworthy of public trust or public honors and be excluded therefrom accordingly. . . .

He therefore recommended compulsory training for every youth, dividing them into three classes: the first class to be known as the Advanced Corps composed of youths eighteen, nineteen, and twenty years of age, who should train thirty days in each year; the second as the Main Corps to be composed of men from twenty-one to forty-five years of age and to be trained four days each year; the third class to be designated as the Reserved Corps, composed of men from forty-six to sixty years of age, who were to assemble twice annually for muster and inspection. Particular attention is invited to that feature which proposed that every young man who had served his time in the Advanced Corps, should receive a certificate of service on parchment, the possession of which should be required as an indispensable qualification for exercising any of the rights of a free citizen. In our wild race for individual freedom, we do not even make it a penal offense for a citizen having the necessary qualifications to fail to vote, yet Washington proposed that no man should vote or exercise any of the rights of citizenship unless he possessed a certificate of service in the militia. By this plan, it was estimated that the Government would have 325,000 semi-trained citizen soldiers among its 3,000,000 citizens, all maintained at a minimum cost, which is approximately the situation of Switzerland today—though the training demanded by the Swiss system is much more rigorous than that proposed by Washington. Their training was to be taken seriously. It may interest you to know that "no amusements should be admitted into camp but those which correspond to war—the swimming of men and horses, running, wrestling, and such other exercises as should

render the body flexible and vigorous. The camps should, if possible, be formed near a river and remote from large cities. The first is necessary for maneuvers, the second to avoid the vices of populous places."

Washington's plan was not adopted by Congress. Instead, they made service in the militia voluntary and left the execution of the law to the States with what unhappy results historians carefully conceal from the student, if indeed, most of them know anything about the matter.

The greatest defect in American character is lack of discipline, from which flows other defects such as smartness, boastfulness, and superficiality. All of these are indications that we are on the road to anarchy, the ultimate goal of unchecked individual freedom, rather than on the road to socialism, the goal of the opposite governmental system whose watchword is duty alone. Do you realize what this lack of discipline in public servants and fellow employees costs us? The average number of our citizens annually killed or wounded as a result of this national defect of discipline amounts to more than the *combined* annual average losses of the Japanese in their war with Russia, the Union losses in the Civil War, the English losses in the Boer war, the French and English losses in the Crimean war, and the losses of the United States in the wars with Spain and Mexico. There can be no such thing as "Safety First" in a population so undisciplined as we have at present in America. Our undisciplined national character represents an annual economic loss of approximately four hundred million dollars. Professor Munsterberg, the distinguished German psychologist of Harvard, in a recent article says:

> The overwhelming mass of the people from the Atlantic to the Pacific seem in this hour united by the belief in the need of military preparedness. This, too, may perhaps be hasty. The ideal of peace at any price is surely not unworthy, and a persistent refusal to enter into the race for armament may truly be an effective means to work toward lasting peace. Yet it cannot be denied, however noble the pacifistic ideals are, their promoters have not succeeded as yet in proposing a single plan by which war would be abolished and yet at the same time possibilities be given for the healthy growth of progressive peoples and for the historically necessary reduction of decadent nations.
>
> As long as such a scheme does not exist, the American Nation is probably wise in doing like the others and in preparing for the

possibility of a defensive war. But is this really possible with any hope for success as long as expert judgment and thoroughness are ridiculed, discipline and authority denounced, and every free American believes that he may act as he pleases and that he may rely on smartness and dash?

Remember the Eastland! The training of an army can never begin in Plattsburg camps; it must begin in the nursery and in the little schoolroom.

Remember the Eastland! Does any one here think for a moment any man will ever pay the death penalty for the murder of the thousand women and children in the Chicago horror? Why not? Lack of discipline murdered them, lack of discipline will protect the murderers. What is the remedy for such a spectacle of national shame and disgrace? It will be found first in home and school discipline and then in compulsory national education in citizenship for the youth of the land modeled on the plan of Washington.

More than three-quarters of a million young men annually reach the age of eighteen in this country. If between the age of eighteen and twenty-five and before they have begun their life work, these young men were compelled to undergo six months of intensive military training, including instruction in personal hygiene and sanitation by military sanitarians and lectures in citizenship by college professors and other successful men of affairs, teaching them by day and by night the duty of service so that shirking a public duty would become in their eyes a crime against the state, we should in one generation work a transformation in American character. The lesson of service to others which is being taught so successfully to the Boy Scouts, indicates the possibilities of teaching the duties of citizenship in national camps of instruction. Your presence here indicates your interest in national defense, but almost unknown to you perhaps, you are likewise protesting against the defects in American character just mentioned. National preparedness will solve itself when we have changed the attitude of the citizen toward the state, because graduates of such schools of citizenship would look upon subsequent military service, whether voluntary or compulsory, in the same way as they do now upon other necessary demands of the state, such as taxation, health and police rules, or the exercise of the right of eminent domain. Such a citizenship would recognize political leaders but would never tolerate political bosses.

Political bosses result from the same conditions that are today responsible for our lack of military policy, *i.e.*, the failure or refusal of the individual citizen to recognize the public duty of service, as shown by his failure to exercise the sacred right of suffrage and his refusal to sacrifice the time required to accept and discharge the duties of public office. Sacrifice is what develops character, and the sacrifice in time and money which you gentlemen are now making, shows that you and the members of the Organized Militia who have preceded you in this camp, realize the duty of service and that patriotism consists in something more than firecrackers on the Fourth of July and turkey on Thanksgiving.

The Battle Sight.*

By Capt. George Chase Lewis, 13th Infantry.

FACTS and not theories govern the business methods of the present generation. A new manufacturing device or an improvement in chemical processes stands or falls on the results it gives in action in a fair and impartial test. Methods of other firms or countries, and theories or opinions as to what may happen under certain conditions, are coldly disregarded. Facts only are decisive.

War for the professional soldier is simply the business of winning battles. The rifle is the principal tool of that business. Within the last decade, a revolutionary device known as the battle sight has been attached to the infantry rifle, involving a radical departure from the direct aiming and shooting methods which have become fixed and hereditary in the race through hundreds of generations of arrow-shooting, spear-casting ancestors.

Eliminating the psychological defect of fumbling and failure to set correct sight elevations by imperfectly drilled men in excitement of conflict, the battle sight violates other and deeper psychological principles, namely, that a frantic or scared man hits and aims at the throat or head of his foe and not at his feet or the foreground, and that the instinctive blind impulse to reach an enemy at a distance is by throwing or shooting a missile at an angle up into the air so that it will carry to the foe, as our warrior ancestors raised their arrow shafts. The battle sight adds to these errors. Naturally so radical a departure precipitated a very considerable controversy that has found expression from time to time in various service periodicals and in numerous recommendations in official reports.

Every theoretical side of the question has been commented on, and many shafts of wit and repartee have been sped in this cause, but the cold-blooded "show-me" business methods of the gentleman from Missouri have been conspicuously absent. Many historical instances are quoted, which show that untrained men will not set sight elevations in battle even though well drilled in close-order exercises or the formal manual of arms, and the

*See comments on this article on pages 443 to 461 of this issue.

regulations and equipment of foreign nations are freely cited as precedents. In none of the published literature on this subject is there a record of a really cold-blooded test as to what the average officer with average men properly trained can expect in the relative performance of the two sights. There are volumes of opinions.

The reasons for this absence of experiment are very apparent. The satisfactory scores made yearly with the battle sight in Class "A" firings partly concealed its ineffectiveness even from its opponents, who have generally failed to grasp the salient facts that in Class "A" battle-sight firing the battle-sight principle of aiming at the foreground is disregarded because of direct aim taken at the bottom of the target frame. The battle-sight scores are further boosted by an increase in the area of the bull's-eye and outer of from 700 per cent to 300 per cent over the fixed-sight target. The mandatory character of our regulations has tended to discourage fixed-sight firings at close ranges in field firings, and the defects of the battle sight have been covered up by the expected drop in effectiveness between Class "A" and Class "B" results.

The foregoing considerations led me to undertake some experimental firings with a view of finding out what real difference in fire efficiency, if any, was to be expected from the two forms of sights, with properly trained men, under identical conditions. The results were so unexpectedly decisive, showing an average of almost 100 per cent greater efficiency for the fixed sight than for the battle sight, that the experiments are published with the hope that others may confirm or disprove them by similar means. It should be noted further that the strongest claim for the battle sight is its supposed efficiency in the hands of excited men. These experiments show that the direct opposite is true and the battle sight gives relatively less efficiency than the fixed sight under excitement, the greater the excitement or fatigue of the men. It cannot be too emphatically stated that these experiments depend on two things: first, that there is not present an artificial aiming point such as the bottom of the target frame in Class "A" firings; and, second, that proper instruction in sight reading and sight settings be given until men can make settings of elevation and windage in ten seconds with the same precision as in the execu-

tion of the manual of arms. This requires about twenty to twenty-five drills.

The adoption of the battle sight is based on certain theoretical premises about as follows:

a. That men in time of excitement will not set sights as commanded.

b. That therefore a battle sight, having such range that the greatest ordinate is equal to the height the opponent presents as a target, will be most effective, since, if aim is taken at the bottom of the target, the enemy within battle-sight range will be struck at some point.

c. That the battle sight is instantly adjusted and its setting can be recognized by the squad or platoon chiefs because the sight leaf is large and easily visible when battle sight is not used.

Against this, the abolition or limitation of the battle sight to emergencies such as cavalry charges is urged on the following grounds:

a. That with moderate and reasonable training in sight setting, men will set their sights as long as they will load or aim any sort of sight.

b. That deductions from historical data that men will not set or use sights in battle, are based on false or incomplete interpretations of the historical conditions. The undeniable fact that in the Civil War 20,000 rifles were picked up on a single battlefield with loads clear to the muzzle due to failure to cap the piece while those same troops wheeled and dressed and executed the manual under 30 per cent and 40 per cent loss simply meant that they were drilled for hours in close order drills every day but were not drilled in the manual of loading with actual caps or ammunition and had no target practice. The fact that a German sergeant in the Franco-Prussian War was given the Iron Cross for trying to keep the rifles of men parallel to the ground shows that no target practice was taught in the German army. The lesson of Packenham's defeat at New Orleans by raw farmers and militia, of Santa Anna's tremendous loss of 1,600 killed and 300 wounded, all shot in head and shoulders by the 169 backwoodsmen defenders of the Alamo, of the British regular troops' crushing repulse at the Tugela and Modder Rivers by Boer hunters and veldt shots, is that men who have once learned to

shoot will shoot accurately in battle as long as they have a rifle to fire.

c. That the normal tendency of excited men with dilated pupils is to see more front sight and to shoot high, and that the battle sight simply exaggerates this defect by about 3 feet.

d. That the ordinate of the battle sight is actually much greater than the average target in real battle at battle-sight ranges. The Manchurian campaigns and the European war have shown that firing lines have lain for hours and in some cases for days at from 100 feet to 500 yards' range and that the targets exposed were only the heads or shoulders of prone skirmishers or entrenched lines. This necessitates, in order to secure hits, that the firer aim with the battle sight, not at the target's lower line, but at an imaginary point below it.

e. The absurdity results that the battle-sight user who is theoretically too excited to set his sight at command in one operation and then turn his attention to the single object of aiming at his target, must, for each shot with the battle sight, remember the ordinate for that range, estimate the height of the ordinate on the foreground in front of the ill-defined target, and aim at that imaginary point with the same care that the fixed-sight user aims at his target itself.

f. That the psychological tendency of the race is to aim at the vital part of the opponent because our thousands of generations of fighting ancestors were victorious and survived and bred after their kind only when they struck true and quick with club or bow at the foe's breast or throat or head and not at his toes. Carom shots and aiming "off" were not fashionable in flint and bronze age society. The stronger the excitement, the stronger becomes this ancestral trait of straight aiming and straight hitting instead of aiming "off" or fencing or sparring.

g. The critical stage of combat is not reached until battle-sight ranges are reached, therefore men will set their sights beyond battle-sight ranges. If they do not, the battle sight is no correction for this long-range error. If, through lack of training or excess of excitement, men do cease to set their sights at about 600 or 500 yards, the fixed sight is then nothing but a battle sight and a certain proportion of cooler men may continue to set their sights correctly and greatly increase their fire efficiency. *The only*

effect of the battle sight is to insure that no man will set his sight correctly at the most vital and critical ranges.

h. That the use of the fixed sight aimed directly at the target and of the battle sight aimed at an imaginary point the height of the ordinate below the target introduces two systems of aiming in both target practice and in battle and results in confusion and loss of efficiency on the range and on the battlefield. In battle, only the direct-aiming method would stand the strain of excitement and the battle sight becomes merely a certified source of error.

i. That the results of Class "A" firings are very misleading as a gauge of the inaccuracy of the battle sight, because the bottom of the target frame offers a well-defined aiming point at the ordinate height below the target and comparison is further handicapped by the great disparity in the size of the areas of the battle-sight and fixed-sight bull's-eyes and four spaces. A most marked falling off in battle-sight firing in skirmishing is noted in comparison with rapid-fire scores at the same ranges and targets due to the element of excitement and physical fatigue in skirmishing and resulting instinctive direct aiming. Fixed-sight skirmish runs did not show much marked comparative falling off and averaged very much higher than battle-sight skirmishing.

Without expressing any conclusion as to the merits of the above arguments, it is apparent that this is a real vital question on the correct solution of which the lives or liberty of the readers of this article may depend at any time and on as brief a notice as that which preceded the August, 1914, campaigns.

What the service and the country need is not arguments or sarcastic repartee but facts determined in a cold-blooded test under as near laboratory conditions as possible. The writer holds no brief for or against either sight. He simply submits these experiments for what they are worth. If there is any error in their results, repetition of the same experiments by others equally capable and interested will develop them. If it appears that the battle sight is not the most efficient under battle conditions, let us get rid of it by creating such a state of opinion in the service based on facts, rather than arguments, that its supporters cannot stand the pressure. If the battle sight is more efficient, then let us continue its use with increased vigor and

instruction. The decision should rest on practical firing results and not on arguments.

With a view of making experimental determination on these points, the following test firings made at Fort William McKinley and at Texas City are submitted:

1. Two classes of men were organized into experimental platoons. One platoon was composed of men having from two to ten seasons' practice on the range, and the other platoon was composed of recruits who had gallery practice and supplementary practice but who had never fired for record. These men were about equivalent to volunteers and certainly no better, either as to training or discipline. All these men were given a minimum of twenty periods of sight-setting exercises, involving about fifteen minutes each, and reached a state of proficiency in which a sight-setting involving an elevation and a windage could be had in about ten seconds. Five consecutive correct settings were required from each individual in training, and those men making errors were required to repeat the exercises.

Volunteers of three weeks' service having fifteen minutes per day devoted to sight setting would represent the state of training of the recruit platoon.

2. Firings were had on the range at "D" targets in frames giving the well-defined ordinate aiming point and at olive-drab silhouette targets with clearly visible lower edges and again with partly concealed olive-drab targets.

3. Firings in all cases were first with the battle sights, and the time was taken from the first word of command to the last shot.

The firing was then repeated with the fixed sights set at zero elevation and windage, and time was taken from the first word of command, sights being set at correct range and windage and firing continued until the total elapsed time for sight setting and firing equaled the time for battle-sight firing.

When the high rate of fire was used or the firing time was short, a considerably smaller number of shots were fired with fixed sights than with battle sights, due to time required for sight setting. Where the rate of fire was slow, or the target exposure exceeded ninety seconds, the number of shots fired was about the same for both sights, the ten seconds required for sight

setting being compensated for by slight involuntary increase of rate.

4. Test firings were made in pairs, one firing with battle sight and one with fixed elevations. It was attempted to cover as wide a variety of conditions as possible as to range, light, background, duration of target exposures, class of individual skill, excitement, fatigue, wind, visibility, etc., to determine the effect of external conditions on any discrepancy which might exist in the efficiency of the types of sights. Every precaution was taken to insure identical firing conditions for the test firings of the same pair. It is believed that the difference in efficiency shown by these experiments can be assigned to no other cause than the effect of the principle of "aiming off" instead of "aiming straight."

TABLE OF FIRING BY MEN HAVING NO RECORD PRACTICE

CLASS B FIRING

Serial Number of Firing Exercise	Estimated Range	Actual Range	Kind of Targets	Number of Targets	Number of Men Firing	Time of Exposure	Average Rate of Fire	Visibility	Battle Sight			Fixed Sight		
									Shots	Figures Hit	Hits	Shots	Figures Hit	Hits
26	B.S.	250	F[1]	24	16	1′54″	5.2	Good	160	6	12	.....	.....	.....
27	250	250	F[1]	24	16	1′54″	5	Good	.....	.....	.....	152	12	21
31	B.S.	400	F[2]	24	16	1′34″	6.3	Fair	160	6	9	.....	.....	
32	350	400	F[2]	24	16	1′34″	6.3	Fair	.....	.....	.....	154	11	17
14	B.S.	300	F[2]	20	21	2′	.....	Good	300	14	29	.....	.....	.....
15	300	300	F[2]	20	21	2′	.....	Good	.....	.....	.....	278	15	42
Total									620	26	50	584	38	80

CLASS A FIRING

4	B.S.	200	D[3]	10	21	1′	.....	Excl	208	10	66	.....	.....	.....
5	200	200	D[3]	10	21	1′	.....	Excl	.....	.....	.....	196	10	72
40	B.S.	200	D[4]	5	14	2′24″	.....	Excl	208	5	48	.....	.....	.....
42	200	200	D[4]	5	14	2′34″	.....	Excl	.....	.....	.....	200	5	46
Total									416	15	114	396	15	118

[1] Targets clearly visible in grass.
[2] Part of each target visible above grass.
[3] During target season almost 50% more 4's with fixed sight than with battle sight.
[4] Almost 100% more 4's with fixed than with battle sight.

Note.—Only 24 out of some 60 firing exercises are given.

TABLE OF FIRINGS OF MEN HAVING FROM 2 TO 8 SEASONS RECORD PRACTICE

CLASS B FIRING

Serial Number of Firing Exercise	Estimated Range	Actual Range	Kind of Targets	Number of Targets	Number of Men Firing	Time of Exposure	Average Rate of Fire	Visibility	Battle Sight			Fixed Sight		
									Shots	Figures Hit	Hits	Shots	Figures Hit	Hits
24	B.S.	250	F[1]	24	24	2'5"	5	Good	240	15	28	.....	.....	
26	250	250	F[1]	24	24	2'5"	5	Good	.....	.....	.....	233	17	49
29	B.S.	400	F[2]	24	24	1'42"	6	Fair	238	12	22	.....	.....	
30	350	400	F[2]	24	24	1'42"	6	Fair	.....	.....	.....	234	15	38
33	B.S.	400	F[3]	24	24	1'34"	6.4	Poor	240	11	20	.....	.....	
34	350	400	F[3]	24	24	1'34"	6.3	Poor	.....	.....	.....	231	10	19
18	B.S.	300	F[4]	30	20	1'	7	Good	212	14	30	.....	.....	
19	300	300	F[4]	30	20	1'	6	Good	.....	.....	.....	172	17	42
11	B.S.	325	F[4]	28	20	2'	6.3	Excel.	354	16	44	.....	.....	
12	300	325	F[4]	28	20	2'	6	Excel.	.....	.....	.....	334	19	89
Total									1284	68	144	1204	78	237[7]

CLASS A FIRING

39	B.S.	200	D[5]	18	5	2'32"	5.9	Excel.	270	5	118	.....	.....	
41	200	200	D[5]	18	5	2'32"	5.8	Excel.	.....	.....	.....	263	5	97
6	B.S.	300	D[6]	28	10	1'10"	8.5	Excel.	280	10	141	.....	.....	
7	300	300	D[6]	28	10	1'10"	8.3	Excel.	.....	.....	.....	272	10	156
Total									550	15	259	535	15	253

[1] Each target clearly visible 1 yard between edges.
[2] Upper part only of each target visible.
[3] Only three figures of twenty-four visible in grass.
[4] Men excited by changing positions.
[5] Eight months after target season. No excitement but with preliminary marked shots slow fire battle sight. About double as many 4s with fixed sight as with battle sight.
[6] During target season. About 25% more 4's with fixed sight than with battle sight.
[7] Sixty-five per cent. greater average efficiency for the fixed sight.

CONCLUSIONS.

It would appear premature to attempt to draw final conclusions from this limited series of firings, but until controverted by more extensive experiments the following deductions are warranted:

a. That the battle sight is materially less accurate than the fixed sight at critical ranges.

b. That acording to the duration of exposure of target, the fixed sight will give from 50 per cent to 100 per cent more hits

than the battle sight on targets approximating in size and visibility of the normal target for close-range work—that is, the olive-drab prone silhouette more or less concealed by grass or parapets but individually distinguishable. For target exposures of less than one minute the inaccuracy of the battle sight is offset by the time required for setting the fixed sight, for exposures approximating one minute there is a distinct advantage in favor of the fixed sight, and for exposures of over two minutes the advantage in favor of the fixed sight is decisive and overwhelming.

c. That where the targets are not individually distinguishable, as when light conditions or grass permit the locating of only one or two figures in a line of targets, there is no material difference in the efficiency of the two sights.

d. That the more dispersed the targets or the smaller the targets, as when the heads only of prone silhouettes are shown at irregular intervals over a parapet on the skyline, the stronger the relative superiority of fixed sight is over battle-sight fire.

e. That the inaccuracy of the battle sight is due to its tendency to throw the bullets high. The fixed sight gives materially more 4's on the "D" target and richochets on the "F" target, besides the moral effect of foreground hits in battle.

f. That the effect of physical fatigue and mental or nervous excitement is to make men aim more "loosely," to see more of the front sight, and to aim more directly at the object causing their fear or anger. The effect of these personal factors is to reduce materially the efficiency of both sights in excitement because of wide and high shooting, but as far as it has been possible to arouse excitement through competitions, yelling, sudden changes of front, and similar devices, the disparity between the result obtained by the battle sight and the fixed sight is greatly increased by the excitement. That is, while both sights show a marked decrease in efficiency from excitement, the battle sight shows far more rapid deterioration, especially where the targets are widely and irregularly spaced, requiring individual aiming. The battle sight is a difficult and delicate tool requiring much training and a very cool brain for its operation.

g. That Class "A" firings on the "D" target give no gauge of battle-sight efficiency and do not teach men to aim "off" or to estimate battle-sight ordinates in the foreground of the target. In actual practice nine out of ten men simply aim directly at the

top of the parapet or the bottom of the frame as a secondary bull's-eye and trust to luck or drawing fine or course "beads" as indicated in their preliminary firing. This is promptly forgotten until the next record practice and is never used in Class "B" work.

h. That the effect of excitement is to make men shoot higher at critical ranges, the logical corrective would be to furnish a sight which would strike lower to offset this effect instead of a battle sight that increases the source of error. A 200-yard battle sight to be used at all ranges under 500 yards whenever the men got out of hand would at least have the merit of logic. The use of the battle sight, however, is a confession of poor discipline and instruction to be resorted to only in emergency.

i. That men can be taught to fix sights in elevation and windage with accuracy in a ten-second time limit, and that fifteen-minute instruction periods daily for a month are sufficient to reach this standard. General disciplinary experience gives assurance that if this instruction is continued as a daily or weekly routine it will become so fixed a habit that its use can be depended on in battle. The fire superiority of troops using fixed sights would be so great that they would probably never reach the stage of demoralization in which they would not set sights. Should trained troops fail to set their fixed sights they would merely have deteriorated to the standard of efficiency which the battle sight sets as the initial stage.

k. The present battle sight should be used only against cavalry charges or at the first instant of a surprise or ambuscade. Proper instruction in sight setting and aiming should be made a matter of regular daily or weekly routine all the year round to form and fix habits of correct aiming. A half hour a day of the recording rod and sight-setting exercises would so thoroughly fix habits of sight setting and correct aiming that they would at least approach the disciplinary standards of New Orleans and the Alamo. Nothing is more certain than that sight setting and aiming can be taught in time of peace or as part of military training during war and, if taught, will be used in action. Recording rods are cheap and should be issued at the rate of one to each rifle.

It is to be noted that two of the brigade commanders of the 2d Division have recommended the abolition of the battle sight as a result of experimental firings and observation.

Field Firing.

By Major Palmer E. Pierce, 15th Infantry.

RECENTLY there appeared in a service paper an article largely devoted to a contrast of present small-arms target practice with that of former days. The claim was made that interest has lessened since the passing of the old Springfield, that the periods allotted for range work are often ridiculously small, and that results are not what they should be.*

The Old Company Commander, who wrote the article, certainly had some disappointing experiences. Yet he was not justified in concluding that the short time assigned him on the range was due to a lack of interest on the part of his superiors in this most important work of the soldier armed with the rifle. No doubt the congestion of troops was so great that the commanding officer could do no better in his allotments under our regulations which prescribe two months as the season for regular practice. Whether or not this regulation should hold at our present large semi-permanent camps or at a great post like Fort William McKinley, where such large numbers of troops are stationed as to limit the use of available ranges to but a fraction of the time necessary for the best results, is a matter that the War Department must decide. However, it should not be argued from this unfortunate condition that the rank and file have lost interest in small-arms range practice.

On the contrary, it is believed that intelligent interest in this subject has increased.

When one recalls the skirmish runs of former days with the absurd position so many took—flat on the back, legs toward the targets, sling about a leg (so-called "Texas Grip!")—the improvement of our present methods is accentuated. The requirements of range practice today all lead to battle efficiency. Those of former days produced fine results so far as shooting on a mark at known ranges was concerned, but there was no efficient training for, or even consideration of, combat firing.

We now realize, as we did not in the good old days of which this Company Commander wrote, that "*individual* instruction is

*Army and Navy Journal, about January, 1915.

not everything." The new Small-Arms Firing Manual states that—

the maximum effect of a fire is obtained only by instructed and disciplined troops under a commander capable of directing their fire properly . . . Only instructed and disciplined troops can deliver a fire that can be made use of intelligently . . . its effects become formidable when it is properly directed. When instruction has made of the troops a pliable and manageable instrument capable of understanding orders and executing them, they are in a position to develop all their power in hands that understand how to make a judicious use thereof. It remains to educate those that have to command them. . . .

The fire of the company, the battalion, the regiment, and larger units is nothing more than the combined fire of all the fire units. It is necessary, therefore, that the leaders of the fire units learn how to utilize the power of all the rifles under their command and to control the fire to suit the varied and numerous situations in which the tactical direction of their superior may place them. In action, the situations vary greatly. They are frequently unforeseen, calling for quick decisions, and the prompt solution of such questions will arise in the mind only after long practice with numerous exercises in time of peace.*

In this most important part of the training of infantry and cavalry, the truth of the old adage that practice makes perfect is upheld. It was formerly assumed that a company that made high scores in shooting at known ranges on plainly visible targets, would do well in battle firing. Fire leadership was practically given no consideration.

That our service was not alone in this false idea is evidenced by the testimony of an English small-arms firing expert, Major General Pilcher,† C. B., who states—

Regimental officers, generally speaking, take a very great interest in teaching their men to become good range shots, but are inclined to forget the enormous importance of fire leadership. Taken as a whole, our regular troops shoot well enough on the range. On active service, there is very little difference, other factors being equal, between the value of an ordinary intelligent first-class shot and that of a King's prizeman, for in action the slight difference in the accuracy of their fire at a fixed range is eliminated by the difficulty of judging distance, the difficulty of seeing a target (how often did we see a Boer, though we heard his bullets whistling?) and the disconcerting effect of bullets about the firer's own head. There is no use of putting a highly

*S. A. F. M., pp. 117, 118.
†"Fire Problems" (Pilcher), pp. 2, 4.

finished tool into the hands of an inexperienced workman nor a company of marksmen under the command of an officer not capable of making use of such a finished instrument. A bad game shot will kill more birds with an old scatter-gun whch will cover the whole face of a barn than he will with a choke-bore, and a captain who gives wrong ranges and fails to properly appreciate the fire situation will inflict less loss on an enemy with a company of marksmen than with a company of third-class shots who would be the equivalent of the old scatter-gun in my simile.

This is fully borne out by the fact that at Hythe, at experiments at unknown distances, teams of third-class shots generally beat teams of marksmen. It must not, however, be thought that I hold a brief for third-class shots, for, on the contrary, I do not think that too much trouble can be taken in improving bad shots, and I should like to have every man in the army either a first-class shot or a marksman. . . . If teams of third-class shots at Hythe at some practices beat teams of marksmen, it is because the commander in charge of the marksmen has either misjudged his distance or in some other manner wrongly solved the problem given him. . . . A good commander with a good shooting company will always beat a similar commander with an indifferent company; but do not give your choke-bore to a tyro. We have the choke-bore; let us teach the man behind it how to use it under all circumstances.

That our service has at last awakened to a thorough appreciation of the value of small-arms target practice in all its phases is evidenced—

1. By the great number of men drawing increased pay for excellence in shooting. In many companies there is not an unqualified soldier.

2. By the School of Musketry for Field Officers held at Fort William McKinley, P. I., November 27 to December 7, 1914. At this school there were 44 field officers—practically all of the field officers of the combatant branches on duty in the Philippines. This school is to be repeated during 1915.

3. By the establishment of the School of Musketry at Fort Sill and the sending there of classes of infantry and cavalry field officers for instruction. It is true that the old School of Musketry at Monterey did valuable experimental firings and made certain important investigations and reports while located at Monterey. However, it did little to educate the mass of our infantry and cavalry officers in fire leadership.

The location of the school was not favorable to centralized instruction, and the necessity of sending field officers to it for instruction was apparently not appreciated. Now all this is changing, and the fire of small arms is being considered in a scientific way and as a question of an importance that makes it at least worthy of some of the consideration given to that of artillery.

During the Russo-Japanese war, two thousand shots were necessary on the average to make a hit. It is agreed that if the combatants had been better instructed, the immense wastage above indicated would have been much reduced. The excessive use of volley firing by the Russians showed a lack of training in combat firing, where the ineffectiveness of this sort of shooting would have been made strikingly apparent.

"In a decisive battle success depends on gaining and maintaining fire superiority. . . . To obtain fire superiority it is necessary to produce a heavy volume of accurate fire. . . . Fire direction and control improve collective accuracy. The importance of fire direction increases rapidly with the range. Control exerts a powerful influence at all ranges."* The truth of these statements is being illustrated on the battle fields of Europe today. That an important factor of this fire superiority is the fire of the small arm is evidenced by the fact that statistics show that over 85 per cent of the total losses during the Russo-Japanese war were caused by small-caliber projectiles.

In spite of the great amount of trench and siege fighting, accompanied by intense artillery fire, it can be reasonably predicted that the majority of hits during the present European war are being made by small arms. As General French has recently said, "The infantry is still the Queen of Battles. Without good infantry, battles cannot be won." Infantry is not good unless it can shoot well. The true test of its shooting ability is the number of hits made under given conditions.

The capacity of our companies for collective shooting on the "B" ranges, *i.e.*, under simulated battle conditions, is determined by proficiency tests. "They are designated as a further and more formal proof or test of instruction than is furnished by the

*I. D. R., par. 401.

results obtained in the known-distance practice and the combat exercises."*

Now it is required that the supervising officer render a judgment as to whether the test was satisfactory or unsatisfactory. That this judgment often is not easy to make cannot be denied.

It may be said that a collective firing exercise is too complex an operation to have its results expressed by a number, a single word, or even by a phrase. In the best performance, some mistakes will probably have been made. . . . Should the results obtained in the annual proficiency test for any organization be such as to warrant a judgment of unsatisfactory, a presumption of deficiency for the entire organization will have been established. This, however, is not entirely sufficient. In case the apparent deficiency is manifestly not due to defective leadership, further inquiry should be made into the state of individual marksmanship and fire discipline of the organization as exhibited in the range and combat practice. Should the presumption of deficient instruction be sustained and the examination establish a proof of the incapacity of the company or troop commander as an instructor, or should the deficiency be owing to defective leadership, or should both these conditions exist, the name of the officer responsible will be reported to the department commander at the time the reports of target practice are rendered.†

It is seen from the above regulations that it is a serious matter to report a company deficient in its proficiency test. Also that there is no definite standard for judgment as there is in individual shooting. There can be no question as to whether a man makes marksman, sharpshooter, or expert rifleman, but there often is a most perplexing one as to whether or not a company is proficient in collective firing.

The rules for judgment are those prescribed in the pamphlet "Regulations Prescribing Standard for Field Firing." These rules are not definite and leave much to the supervising officer, who is directed to base his decision on—

1. Preparation or tactical procedure;
2. Accuracy of fire;
3. Distribution of hits;
4. Rate of fire.

A careful study of Articles 19–37 of this authorized pamphlet on field firing is necessary to give fair and impartial judgments.

*S. A. F. M., par. 299.
†S. A. F. M., par. 234.

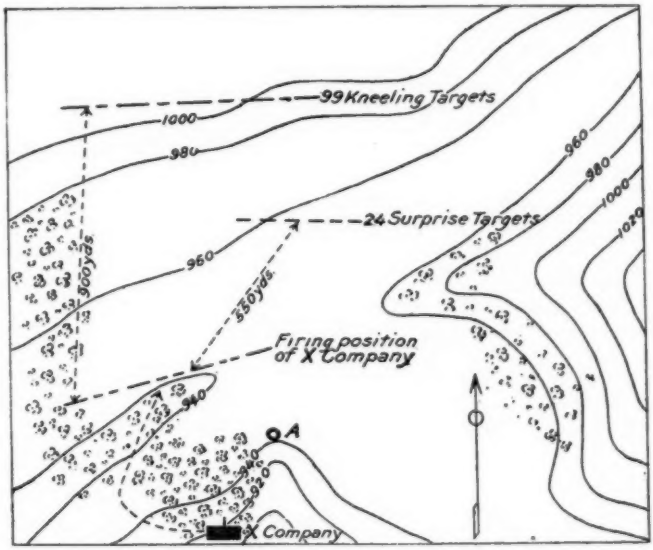
In addition, it is believed necessary to have all our field officers instructed by a practical course at the School of Musketry. Otherwise there will be no common standard of comparison. The rating of organizations will be more or less haphazard until all officers judge field firing along common lines.

The following is an example of a proficiency test that will illustrate the points considered.*

PROBLEM.

The company being under cover, the officers were called forward to a position from which the terrain could be observed and the following written statement given to the captain:

Your battalion being about to attack a hostile infantry force in its immediate front, the major summons all the officers of the assembled battalion to this point (see "A" in sketch) and gives his orders—in part as follows:



A hostile infantry force of about three companies has taken up a position in our immediate front. You see that part of their firing line (pointing to silhouettes). We will attack, envel-

*Fired at Regan Barracks, P. I., during March, 1915.

oping the enemy's right. Company "X," the center of the firing line, is the base company. It will attack the enemy in our immediate front (pointing). Its sector will be from the ridge on our right to that line of trees on our left. In moving to the attack, it will pass to the west of the obstacle behind which it is assembled. I will indicate when fire will be opened. . . .

Move out.

Data.

Number of targets was ninety-nine kneeling on main line and twenty-four kneeling (disappearing) as surprise target (see sketch). One yard from center to center. The disappearing targets appeared after firing on the main group had continued one minute. They remained one minute after firing began on them. The captain was directed to turn all the fire on the surprise target if one should appear. Afterwards, fire was resumed on the main group.

Number of men firing: 120.

Number of rounds fired:

537 on disappearing.

4263 on kneeling.

Sight setting:

Disappearing—battle.

Kneeling—750.

True range:

550 yards.

900 yards.

Number of hits expected from average shots:

	With range used	*With correct range*
Disappearing	51.5	51.5
Kneeling	176.0	464.
Total*	227.5	515.5

The error in sight setting of 150 yards reduced hits to 38 per cent of those expected, or to 176 (kneeling). (See Plate II, pamphlet on Field Firing.)

Number of hits made:

Disappearing	92
Kneeling	169
Total	261

Numbers of figures expected:

Disappearing	22.8
Kneeling	79.3
Total	102.1

*464 × .38 = 176 +.

Number of figures hit:
Disappearing 21
Kneeling 73

Total 94

Time of execution:
30 minutes and 10 seconds from commencement to taking up fire.

Rate:
Long range, 7.5 per minute.
Short range, unable to judge (due to irregularity in changing targets; estimated rate at least equal to 7.5 per minute).

Atmospheric condition:
Bright and hot.

Considering this exercise alone, it might be thought a simple matter to report the company deficient in field firing. The hits made were far below those expected. But the error of range used was so large that it more than accounted for the discrepancy. In fact, the hits on the disappearing targets at battle-sight range exceeded the expected number. It is also a well-known fact that a good shooting company using an incorrect range is apt to make fewer hits than a poor shooting one under similar conditions.*

To add to the difficulty of rendering a just decision in this case, the company had in its combat exercise made 178 hits where only 129 were expected from average shots. The individual marksmanship as shown by the results of the practice on the "A" range was good.

Evidently, the poor results were largely due to poor range finding. The range was obtained by averaging the estimates of three men. The targets were on rising ground, and the conditions as to visibility were good. The company had been properly trained, and no satisfactory explanation could be found for the estimate, which was evidently a freak one.

The captain of the company had joined near the close of the target season. However, the previous firing exercises did not indicate a lack of fire discipline, although about 65 per cent of the men were in their first season.

Was a judgment of unsatisfactory established with the added presumption of deficiency for this entire company? Under exist-

*See quotation from General Pilcher ante.

ing conditions would not this organization get different ratings depending on the supervising officer?

One of the greatest benefits to be expected from the establishment of the new School of Musketry is the training of our field officers to common standards in this most important subject of small-arms fire. As an indirect result will come new dignity to the infantry and cavalry branches of the service—a dignity based on the appreciation by the other branches that the infantry and cavalry have technical problems whose successful solutions depend on professional attainments of a high order.

Student Camps of Instruction.

THE LUDINGTON CAMP.*

By 1st Lieut. Roy A. Hill, 7th Infantry.

LOCATED upon the east shore of Lake Michigan, about two miles from the city of Ludington, the site of this instruction camp was ideal. The soil being of a sandy character, the drainage is practically perfect, while the surface is sufficiently covered with grass to prevent the sand being blown about camp to such an extent as to become a nuisance. The terrain, of a rolling character, is admirably suited to such forms of instruction in minor tactics as patrols of various kinds, outposts, advance and rear-guard exercises, and the company in attack and defense; while the weather is so cool and invigorating that it fills one with abounding vigor and energy for the day's work.

There is a railroad connecting the camp with the town as well as with several summer resorts in the near vicinity, thus making the camp readily accessible. The resorts referred to are of the best type, being as a general rule frequented by people of education, refinement, and high moral standard, who come to enjoy a quiet summer's rest. Many of them are college professors, ministers, professional men, and their families. Hence it is readily realized that no better atmosphere could be desired for handling and training a large number of young men. This is enhanced by the fact that Ludington and the surrounding territory is a prohibition county. There are numerous tennis courts, bathing beaches, a golf course, dancing pavilions, and a country club, practically all of which were available for the use of the students, while there is good fishing to be had at various points in the near vicinity. These features add to the many other advantages those of a recreational and social nature.

Pursuant to War Department Bulletin No. 23, dated June 18, 1915, the camp was started on July 1 by the arrival of Troop A, 5th Cavalry, under Captain Thomas M. Knox, and 2d Lieut. H. Thompson, 5th Cavalry, who had marched some three hundred and fifty miles from Fort Sheridan, Illinois. The next arrivals in camp were Company C and Band, 3d Infantry, the former

*July 5–Aug. 8, 1915.

from Fort Ontario, Oswego, N. Y., and the latter from Fort Madison, N. Y., both by rail. Company C was officered by Captain F. H. Burton, 1st Lieut. Jason M. Walling, and 2d Lieut. H. R. W. Herwig. The different officers detailed for duty at the camp were Captain C. W. Weeks, 28th Infantry, Camp Commander; Captain G. A. Herbst, 14th Infantry; Captain L. R. Dunbar, Medical Corps; 2d Lieut. Thom Catron, 23d Infantry; 1st Lieut. R. P. Palmer, 22d Infantry; 1st Lieut. J. H. Barnard, 5th Cavalry, and 1st Lieut. Roy A. Hill, 7th Infantry. They arrived from July 1 to 5, inclusive. The officers and troops at the camp were assigned as follows by Captain C. W. Weeks, 28th Infantry, Commanding:

2d Lieut. Thom Catron, 23d Infantry, adjutant, athletic and range officer;
1st Lieut. J. H. Barnard, 5th Cavalry, quartermaster, ordnance, signal officer, and in charge of the students' mess;
Captain L. R. Dunbar, Medical Corps, surgeon and in charge of sanitary instruction;
Captain G. A. Herbst, 14th Infantry, commanding Student Co. A;
1st Lieut. R. P. Palmer, 22d Infantry, commanding Student Co. B;
1st Lieut. R. A. Hill, 7th Infantry, commanding Student Co. C;
Captain F. H. Burton, 3d Infantry, in charge of gallery practice;
1st Lieut. J. M. Walling, 3d Infantry, assistant instructor of tactics;
2d Lieut. H. R. W. Herwig, 3d Infantry, in charge of instruction in radio telegraphy;
Captain T. M. Knox, 5th Cavalry, instructor in equitation and cavalry drill;
2d Lieut. H. Thompson, 5th Cavalry, assistant instructor in equitation and cavalry drill.

The students commenced arriving July 3 and by the evening of July 6 about one hundred and forty-eight students had reported and been assigned to companies, squads, and tents, receiving practically the complete equipment of the infantry soldier at the same time. These men represented sixty-one different institutions of learning from Yale, Harvard, and Pennsylvania Universities in the East, to Kansas State Agricultural College in the West; from New Orleans High School, Georgia School of Technology, and Texas Agricultural and Mechanical College in the

South, to Wisconsin and Minnesota Universities in the North. Illinois had by far the largest representation at the camp as there were forty-three men from that school, while Ohio State was second with eleven men. The attendance from other schools ranged from one to six.

The one hundred and forty-eight students were formed into three companies of approximately fifty men per company, each having student first and second lieutenants, a first sergeant, a quartermaster sergeant, three duty sergeants, and a corporal for each squad.

In addition to organizing the students into companies and assigning them to tents, they were drilled during the first two days in the School of the Soldier, Manual of Arms, and School of the Squad, advancing rapidly to the more complicated maneuvers of the company, both in close and extended order drill. Only enough of the close-order drill was given to facilitate handling the men and to inculcate that subconscious obedience so essential to well-trained troops, the lack of which becomes so evident when extended-order movements, with their attendant loss of control, are attempted. The day's work started with assembly for reveille at 6.10 a. m., breakfast, sick, and fatigue calls being disposed of between that time and 7.45 a. m., at which hour took place the assembly for the first drill period, lasting until 10.45 a. m. and conducted under the direct supervision of the student company commanders. From 11.00 a. m. to 12.00 noon, the second period, theoretical instruction was given either by the company commanders to their individual companies in such subjects as nomenclature and care of rifle, advance, rear, and flank guards, outposts, patrols, or else by selected officers to the assembled student body on such subjects as "Objects and Aims of the Camp," "Camp Sanitation," "Fire Direction, Fire Control, and Fire Discipline," "Typhoid Prophylaxis," "The Organization of Volunteers," and "Army Organization." The third period, from 1.00 p. m. to 4.00 p. m., was devoted to instruction in topographical sketching, tactical discussions on the terrain, equitation, and instruction preliminary to target practice, all of which was purely voluntary. These drills were remarkably well attended; in fact, it was necessary to divide the volunteers into sections, including practically the whole of each company, in the following manner: eight students for

sketching, fourteen for tactical walks, ten for equitation, fourteen for target practice, the remainder being instructed in bayonet combat. This progressive scheme of instruction was followed every week-day with the exception of Saturday afternoon, which was left entirely to the students, as was also all day Sunday, except for company and camp inspection at 8.30 in the morning. The calisthenic exercises for ten minutes at reveille consisted of semaphore signaling for the whole company, while retreat was always followed by the manual of arms for ten minutes. At least one evening per week was devoted to a war game. Due to limited facilities, all of the volunteers for this work could not be accommodated.

During the first week, the primary principles of close-order drill from the School of the Soldier to include the School of the Company were fairly well instilled in the students. The second week was devoted to acquiring the same knowledge of extended-order movements, battalion close order and deployments, concluding with an attack upon an outlined enemy by the battalion during the last drill period of the week. The regular company and troop gave exhibition drills.

The sections in volunteer work were changed so as to give every one an opportunity to participate in all classes of instruction.

The third week the companies were instructed in target practice, including range discipline, course to be followed, handling of targets by pit details, practice marches including advance guards, rear guards, flank guards, patrolling and outposts, together with demonstration work by a radio section from Fort Leavenworth, which had arrived early in the week. Each company got in one practice march during the week, including a problem against Troop A, 5th Cavalry, fired the complete instruction course prescribed for the Organized Militia, did its share of work in the pits as well as furnishing scorers for the firing point, and received some instruction in field fortification. One day was set aside as a field day, which was held in Ludington, and included different track events, tug-of-war, mounted potato race, exhibition cavalry drill, Roman race and ball game. The meet was between the students and enlisted personnel on the one side and Ludington on the other, practically all events being won by the men from the camp with the exception of the ball game.

which was closely contested and finally won by the local team with a score of nine to eight. The instruction firing on the target range closed with from thirty to thirty-seven men out of each company qualifying as first-class men, in spite of the fact that no one had an opportunity to fire over the course more than once.

The fourth week was devoted to record firing on the target range and practice marches by company. Field fortifications by battalion and an exercise with a war-strength company from the student battalion were a part of the scheduled work, but, due to inclement weather, it was possible to finish only the record firing. Twenty men qualified as experts, thirty as sharpshooters, and forty-four as marksmen, making a total of ninety-four, which gives an average of practically $66^2/_3$ per cent per company of the strength firing, qualifying as marksmen or better. On the practice march, each company was issued rations; an advance-guard and outpost problem was solved with individual cooking at noon by the whole company, and a rear-guard problem on the return to camp. Captain LeRoy Eltinge, 15th Cavalry, delivered a lecture on the "Psychology of War," and Captain H. A. Drum, 23d Infantry, on the "Organization of Volunteers." Saturday morning was devoted to a battalion review and inspection in heavy marching order.

Monday of the fifth and last week was given over to the handling of a war-strength company in close order, extended order, and entrenching, each man being required to dig himself in from the prone to the standing trench. The afternoon was devoted to preparation for the three-day practice march scheduled to start Tuesday morning, but again inclement weather prevented the plan from being carried out, and it became necessary for the camp commander to be satisfied with marches in the vicinity of the camp, returning each night and going into shelter tent camp. The latter part of the week was devoted to settling accounts, turning in equipment, making medical examinations, and closing of camp.

In addition to the field day, there was time to work in one or two ball games among the different organizations in camp, a tennis tournament, some golf playing, and a great deal of swimming and boating. This, together with the social life of each week, thoroughly occupied the days and evenings. There were dances at the Country Club, in the students' mess, at the different

hotels in the vicinity, band concerts at camp and in town, with a very fair amateur play, given by the students and the young ladies of the vicinity.

The Board of Trade of Ludington gave a banquet for the officers of the camp, while the people of the city and surrounding resorts were very cordial and most hospitable in their treatment of every one connected with the camp.

A paper published weekly, called "Reveille" and compiled in the form of a pamphlet so as to be a permanent memento of the camp, was issued by the students. It contained some very good kodak pictures of different views about the camp as well as interesting news items describing the more important occurrences. Among other articles of interest were items on the different distinguished personages who visited the camp, together with addresses delivered by them. Among them were Senator Smith and Congressman McLaughlin of Michigan, President Drinker of Lehigh, and Colonel Frederick, Department Commander.

To all of the officers connected with the work, the avidity and rapidity with which the different kinds of work were picked up by the students was very remarkable to say the least. This, together with the enthusiasm displayed by the great majority of the students for the work, made it a great pleasure to be associated with them in this way, although a consideration of the ground covered by the schedule in the allotted period of five weeks in a most thorough manner will show the strenuous character of the work. Not only did the students receive the drill instruction, but they gradually acquired some idea of our military history, military policy, and the necessity for national defense. The physical improvement was very noticeable, and, despite the strenuous work, there was little complaint in that regard, but rather a request that more be given, which in itself is a very good indication of the serious attitude of these young men toward the work. It also gave the officers on duty at the camp a realization of what could be accomplished in a one-year enlistment by an intensive course of training.

Due to the uncertainty as to whether the camp would be held, the probabilities are that many young men did not come who had planned to do so.

THE PRESIDIO CAMP.*

By Capt. Allen J. Greer, 16th Infantry.

Under authority of the War Department and pursuant to special orders No. 150, Western Department, the camp of instruction at the Presidio of San Francisco commenced on July 10.

The following troops participated:

Provisional squadron, consisting of four troops of the 1st Cavalry; Co. K, 21st Infantry; Field Hospital No. 2; Ambulance Company No. 2; detachment from the School for Bakers and Cooks.

Major James G. Harbord, 1st Cavalry, was in command of the camp, and his staff consisted of Captain Allen Greer, 16th Infantry, Adjutant; Captain Charles O. Thomas, Jr., 1st Cavalry, Quartermaster, and 1st Lieutenant C. R. Norton, 14th Cavalry, Ordnance Officer.

The following officers were detailed by the War Department as instructors:

Major John J. Nance, U. S. A., retired;
Captain Paul B. Malone, 2d Infantry;
Captain Carrol F. Armistead, 21st Infantry;
Captain Allen J. Greer, 16th Infantry;
1st Lieutenant John P. McAdams, 11th Infantry;
1st Lieutenant Emmett Addis, 10th Infantry;
1st Lieutenant F. J. Osterman, 30th Infantry;
1st Lieutenant Eugene Santschi, Jr., Infantry;
2d Lieutenant Herbert C. Fooks, 16th Infantry.

The camp was located in the Presidio military reservation close to the Exposition grounds, and the students when in uniform were admitted free to the Exposition. The proximity to the fair grounds was an inducement that caused many to attend from all parts of the country; there were students from twenty-eight different States, representing many different institutions.

The location of the camp, however, also had its disadvantages, for there was no target range available for regular practice, and maneuver ground on and near the Presidio reservation is rather limited.

Prior to the opening of the camp, tents had been pitched, and a mess, run by the detachment from the Bakers' and Cooks'

*July 10–August 15, 1915.

STUDENTS' CAMP, PRESIDIO.

School, established. This latter was under the supervision of Captain Thomas and proved most satisfactory to all concerned.

On the 10th of July and the following few days some 210 students arrived and registered. As nearly as possible, men from the same locality and colleges were grouped together, and college men separated from high-school students. The latter measure was found specially desirable later on. Three companies were formed, commanded by 1st Lieutenants J. P. McAdams, 11th Infantry; Rutherford S. Hartz, 21st Infantry, and Eugene Santschi, Jr., Infantry. These three companies, with Company K, 21st Infantry, were formed into a provisional battalion commanded by Captain Paul B. Malone, 2d Infantry.

The first two days after the camp opened were given over to the organization of the student companies, to the issue of equipment, and to talks by Colonel Gresham on the "Purposes of the Camp," by Major Harbord on "Routine of Camp," and by Major Collins on "Camp Sanitation and Personal Hygiene."

As soon as companies were organized, the company commanders were directed to make temporary appointments of noncommissioned officers. These appointments were merely tentative and were frequently changed. On July 25, however, regular appointments of two student lieutenants per company and the full complement of noncommissioned officers were made by the camp commander on the recommendation of the company commanders. Later a student battalion adjutant was appointed, resulting in the appointment of another student second lieutenant.

Prior to the opening of the camp, a detailed program of instruction had been drawn up by Major Nance and Major Harbord. and a printed copy was furnished each student. This schedule was adhered to throughout, a few minor changes only being made. The plan of instruction was most comprehensive, as is seen from the following description, but the students progressed rapidly, showing a most commendable capacity and desire for knowledge.

On Monday, July 12, the real work of instruction commenced. During that week there were drills in the School of the Soldier, Squad, and Company, position and aiming drills, and gallery practise. In addition, there were talks on "The Use and Duties of the Different Arms and Branches of the Service," on "Map Reading," and on "Field Orders."

During the second week, there were talks on "Patrols and Messages" and "Marches and Protection of the March." These talks were followed by tactical walks and terrain exercises involving the use of patrols and an advance guard. On Saturday, after inspection, there was a talk by Major Nance on "The Rules of Land Warfare," and later a demonstration of signal-corps apparatus on the fair grounds. On this same day, ex-President Roosevelt made a special trip to the Presidio to talk to the students on the subject of a circular letter that had been sent to all students by the Collegiate Anti-Militarism League. In this speech and in one delivered the same week in the fair grounds, Mr. Roosevelt came out strongly for some system of universal training along the Swiss line, spoke most heartily in favor of the student-camp idea, and most emphatically urged national preparation for defense.

During the third week there were demonstrations in loading wagons, pack transportation, military bridge building, use of explosives, and demolitions. There were also talks on "Camps and Outposts" and military sketching and a tactical walk and terrain exercise involving the use of outposts.

This week we also had two very interesting and instructive lectures, the first by General C. A. Woodruff (retired) on "The Psychology of War," and by Captain Niesigh, English Army (retired), on "The Military System of Australia."

During the fourth week, there were special talks by General Sibert on "The Construction of the Panama Canal," by General McClernand on "American Military History—Our Failures, Our Successes," and by Colonel Swift on "The Military Policy of the United States." Instruction in road and position sketching was also given, and there were talks on "The Technical Organization of the United States Army," "Field Fortification," and "Combat." Following the last, there were tactical walks, and terrain and field exercises involving combat and illustrating both attack and defense.

During the fifth and last week, there were demonstrations, showing the working of sanitary troops, machine guns, and field guns, and the students were given opportunity to see target practise by the harbor defenses of San Francisco. A most instructive talk was given the students by Colonel John F. Morrison, 6th Infantry, on "Organization and Discipline."

On Thursday, Friday, and Saturday, a practice march was held, participated in by the provisional battalion and Troops E and G, 1st Cavalry. On the march there was work in advance and rear guards and outposts, exercises involving delaying action by cavalry, and a combat.

On the return to camp on Saturday, the work of breaking camp commenced. Equipment was turned in, accounts settled, and students commenced to scatter to all parts of the country.

On Sunday, August 15, the camp officially ended.

During the entire period of instruction, in addition to the regular schedule, there was optional work in the afternoon in cavalry, riding and equitation; gallery practise, first aid, war games, and signal work. These sessions were largely attended, and those attending did good work, but the scheme was found rather unsatisfactory, although the best that could be devised under the prohibition in orders from the War Department against compulsory afternoon work. In view of the fact that the period of instruction is for five weeks only, it would seem that often theoretical discussions could with advantage be held in the afternoon, to be followed the next morning by practical demonstrations and exercises. Moreover, except where certain students are more advanced than others, it is believed all should have an equal amount of regularly assigned work, the optional idea being somewhat out of place in regular military instruction.

During the period of the encampment, the students had a regular program of amusements. There were athletic exercises, baseball games, contests, a tennis tournament, and two hops. The students were also invited to, and a number of them attended, the regular post dances.

The students who attended the camp could be roughly grouped under two heads, namely, the college or university men and the preparatory-school boys. The difference in the character of the work performed, attention to duty, and ambition to learn was quite marked between the two, who were about equal in numbers. The college men, even though often without any previous military training, picked up instruction quickly, and were keen and alert. The result showed conclusively that except in rare cases the intensive course of training was beyond the high-school student, and camps in the future should aim to secure college men only. The behavior of all students was, generally speaking,

excellent. In one instance only was there a case of positive misconduct, and the offender was expelled from camp.

Of the 214 students who attended the camp, 94 were recommended for commissions in the volunteers. A number of others would have been recommended except for the fact that they were considered too young. Personally I am of the opinion that the results obtained with these young men alone would have justified the camp. The students who were actually recommended for commissions all showed an aptitude and ambition for learning, and were well-behaved men of excellent character. In case there should be a call for volunteers, every one of these young men should be commissioned immediately.

As to the conduct of future camps, a number of different plans have been suggested, all having much merit in them. The best scheme, I believe, is regularly to enlist college men for two months each summer. This would provide them with a uniform, subsistence, and the pay of a private soldier during the period of instruction. It is believed that many young men would take this opportunity to acquire some knowledge of military training which would not only be free of cost but pay them slightly at the same time. At the end of these camps, suitable examinations should be held, and those who pass successfully should be given appointments as lieutenants in the national reserve. Those who show special fitness should be appointed provisional second lieutenants for one year in the Regular Army and then pass to the reserve. The small expenditure that would result from such enlistments would be more than repaid by having available reserve officers of excellent education and a certain amount of military experience.

An alternative to the enlistment plan would be to have the camps continued as at present, but the students should certainly be permitted to purchase their uniform from the Quartermaster Department, and by congressional act, they should be furnished their rations. This would make the expense to them a minor feature, and many desirable young men would in consequence attend.

Army officers on duty at educational institutions should be instructed by the War Department to urge students whenever possible to attend these camps and should notify camp authorities in advance of the students who are to attend, and supply particu-

lar information in regard to them. This would assist the camp authorities in the appointment of officers and noncommissioned officers.

At our particular camp, some few of the students had attended previous encampments, but their certificates did not contain sufficient data to enable any estimate to be made of their capacity. To remedy this defect we had printed descriptive reports, furnishing one to each student, and forwarding one to the War Deparment. These reports gave a complete history of the man, date and place of birth, military experience, institutions attended, physical condition, whether recommended for volunteer commission, and, in fact, all data that would be of use to future camp commanders or the War Department.

Although the Presidio and its proximity to the Exposition caused many students to attend this camp, it is believed it would be much more desirable not to have the camp located near a large city. It is most essential that there should be a target range and such suitable grounds for maneuvers as would not require them to be forced in their nature.

Every officer on duty with the camp I feel confident has become an enthusiastic supporter of the Student Camp idea. Whatever form may be adopted for them in the future, the War Department should urge congressional support, and their numbers should be greatly increased. The future will show that whatever expense is incurred on their account is truly bread cast on the waters.

The Stiff Bayonet.

By 2d Lieut. C. N. Sawyer, 30th Infantry.

IN NOVEMBER, 1912, I was directed by my company commander to take charge of bayonet fencing instruction in Company "M," 30th Infantry, and "to produce the best bayonet fencing company in the Regiment."

The time allotted bayonet fencing was from one-half to an hour a day, which, at the rate of one squad every fifteen or twenty minutes, took two or three days to go through the company. This schedule, if maintained, would give each man in the company instruction twice a week.

The first three weeks were spent in foot work and preliminary individual work. Then followed whole weeks at a time when the company was on fatigue every day shoveling snow.

That time was spent in the study of all the articles on bayonet fencing in the INFANTRY JOURNAL for years past; in studying all the manuals on the subject, past and present; and in bayonet combat with two or three of the best men in the company. I was very shortly their superior with the bayonet for this reason: I had approached bayonet fencing with no preconceived notions of how it should be done and with only a general knowledge of the manual demands for a lunge and a thrust, and simply played to beat them at their game.

Their methods of lunging and thrusting and of holding the piece were exactly according to the manual, I found; but mine were very different—they were not getting results and I was.

The final methods adopted were based on two years' experience in combat, where I fenced sometimes as high as forty bouts a day with as many different men—not only men from my own company, but from other companies; and also, on the study of competitions, methods used, and their results. From this experience I came to the conclusion that our Manual was not, perhaps, based on practical principles.

The first two months of training showed that the Ordnance bayonet was useless for our work for the following reasons:

1. It was too easily broken;

2. Broken in a lunge or thrust, it was very dangerous and inflicted ugly wounds;

3. It fails to parry your opponent because of its extreme flexibility;

4. Due to the bayonet slipping off that part of the plastron struck, the judges and the opponents are unable to tell whether a given blow reaches home or not;

5. It in no way imitates the regulation bayonet except in length. It should simulate not only length but rigidity, stiffness, weight, and size, and be capable of producing every effect of the regulation bayonet, except actual puncture of clothes or flesh.

While we were finding out what the Ordnance bayonet would not do, we were at the same time experimenting with a stiff broomstick bayonet having various shock absorbers on the tip.

The adoption of the stiff bayonet brought in its train two difficulties:

1. The men did not like to use it; it was new, not regulation, and they were afraid of it;

2. A change from the old methods of holding and using the weapon became imperative.

On demanding the reason for a perfunctory exhibition by a trained sergeant of many years' experience, there came the answer, "Lieutenant, I have served several enlistments, and no officer ever told me to do it this way before, and it isn't what the book says anyhow." But a promise to win the battalion meet coming in two months destroyed the antagonism to the new methods in the company. Practice, greater ability to defend themselves, the incentive to win the meet, and finding that they could tell when they had obtained a point, also destroyed the objection to the stiff bayonet in the company.

The first test that the company stood was in a fencing contest with the other companies of the 3d Battalion, 30th Infantry. Eight men, picked by the company commander, fenced the team from "I" Company. "M" Company won this contest, fenced the winner of the contest between "K" and "L" Company, and won. Eight men were then chosen at random from each of the four companies in the battalion, and these teams fenced each other, and again "M" Company won. This showed the men that they were armed with a weapon that would produce results and that they were being effectively trained. It also gave a real incentive toward company spirit and company pride. By this time, the stiff-bayonet idea had been taken up by the other three

companies in the battalion, and experiments were conducted with stiff bayonets of all descriptions, including bayonets made of heavy gas pipe; but from observation of these experiments, it was decided that no improvement over the broomstick bayonet has been developed.

After changing our station, new difficulties arose. New noncommissioned officers in the company had the old idea of bayonet fencing and bayonet combat, and although they were given careful instruction, the long training of previous years would crop out, and they would instruct recruits in the old way. When privates in the company showed in combat that they were far superior to noncommissioned officers recently joined and appointed, the new noncommissioned officers began to realize that they had something to learn. Recruits joining the company were invariably given a fencing outfit and lined up against a private of previous training, and the command "fence at will" was given. No matter how poor a fencer the trained man was, he was always able to place the recruit *hors de combat*. It was then explained that this was not done to discourage the recruit, but merely to show him that he had something to learn. It was also an object lesson for all and showed that even a poor man with some training was better than a good man with no training.

At the Regimental Field Meet in San Francisco, the stiff bayonet made its first bow to the regiment. Officers of the other battalions, viewing it in action remarked, "It's just like hitting a man with a club. I'll never permit my team to fence a team armed with that brutal weapon." Proof that the stiff bayonet had a moral effect on officers as well as on men, was considered the most favorable kind of criticism, a point in favor of the stiff bayonet which we had hoped for but not quite expected.

The contests at the Presidio developed three schools of opinion among the officer personnel of the regiment, which may be classified as follows:

1. That bayonet fencing was a waste of time, as bayonet wounds in battle were nil, and valuable time was being given to a subject less deserving than many others;

2. That for the combat, the opponents should be lined up fifteen yards apart, and the command "Charge" given, the first disabling blow to decide the bout;

3. That a fencing contest should consist of a bout of one or two minutes in which blows that disable, would count one point and in which endurance would be a large factor in the outcome.

All other systems or schools of thought or lack of thought are apparently but combinations of these three viewpoints.

The experience of the preliminary field meet at San Francisco where a little man with a stiff bayonet backed big men from other companies all over the lot, did not leave many pegs on which to hang claims for the no-bayonet-fencing idea.

In regard to the second classification, it may be said that while the first disabling blow will count in war, yet just what will disable in practice is a point hard to determine between two quickly moving, heavily masked, plastroned, and gloved men.

Incidentally, endurance counts, not only in the actual combat but in the advance under fire in getting up to that point. Moreover, a man who knows how to handle the stiff bayonet and realizes that he knows, is certainly in far less danger of quailing before a bayonet charge than one who does not know. Actual combat bouts of one minute with proper training will give him that knowledge. The endurance developed in one-minute bouts is considerable. The *desire to attack*, "to close with the bayonet," is what is wanted. A man who can carry off a one-minute bout will have no trouble in making a charge. Hence, we have insisted on at least one-minute bouts as a test of the men's skill and endurance.

Individual ideas on bayonet fencing went into retreat when it was announced that there would be a test of bayonet fencing in the regiment.

In Company "M," as preparation for the regimental bayonet-fencing contest a period of twenty minutes for each squad in the company was devoted to foot work as laid down in the Manual of the Bayonet, except that the right foot made an angle of thirty degrees with the front instead of ninety degrees. Recently joined men who objected to this position, were required to run a race forward and backward with the right foot held in the position shown on page 9 of the Manual against a man who complied with our requirement. He lost his race, to his discomfiture and to the amusement of the rest. Some few had to run their races several days in succession before the lesson was learned.

All periods thereafter were used for bayonet combat, with an occasional review of the following exercises and their actual exposition by the instructor:

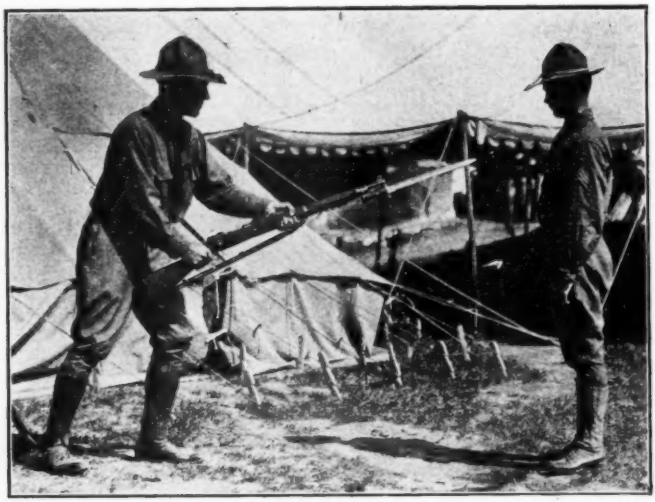
1. Come into guard quickly and shake the opponent by several quick feints, then starting from engage right in each case, execute:

(*a*) The straight (as defined in the Manual).

(*b*) The disengage and lunge (at the heart only).

(*c*) A feint to the right and lunge to the left (at body only).

(*d*) A double feint.



2. From engage left, the reverse movements.

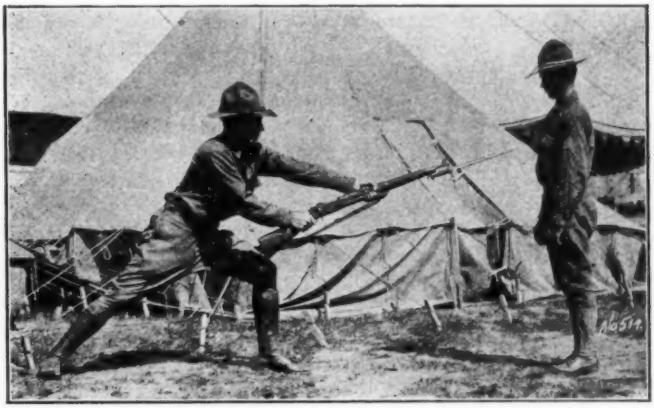
The above movements were also combined with a cut instead of the lunge or thrust.

The tactical side of the engage for the disabling blow consistently emphasized the following: (1) engage right permitted (*a*) the disengage and lunge or cut (*b*) the double feint (to the right, then to the left, and then the lunge to the heart or cut at wrist); (2) engage left permitted (*a*) the straight (lunge or cut) (*b*) the feint left and lunge to right (at the heart or cut at wrist).

We chose to stand or fall on these four moves for disabling blows or cuts. Attacks at the head were prohibited, for the mask

would not stand our stiff bayonet and the head without the mask is a small target compared with the body.

Low parry right and left were prohibited absolutely, as their use meant a death blow from a trained antagonist. Although our attack was reduced to the very simplest elements and our aiming point solely the heart or wrist, yet proficiency was a hard thing to attain. Most men have no conception of time—of that point in the swing of your feint when your bayonet is slightly dropped and you flash back a deadly lunge at your opponent's



unprotected heart. Nor do men easily acquire the power to feint and draw their opponent's bayonet out of position.

The position of body, feet, hands, and rifle in the position of guard, is shown in the accompanying illustration. The right foot is turned out just enough to give stability, ready to drive forward or jump back. The weight is on the balls of the feet, not on the heels. The rifle is carried well forward, right hand just to the right of, and in front of, the left knee and is held with barrel up so that the bayonet has its cutting edge down. In the lunge, as shown in the above illustration, the right hand drives the rifle straight forward. The rifle does not have to be turned through an angle in order to cut down. Nor does it take two motions for a lunge or thrust. The point is at the height of your opponent's heart, and that or his left wrist is the objective in combat.

Compare these positions with the plates in the Manual. In the Manual at the "Guard," the right forearm on the hip draws gun and bayonet back, your opponent's bayonet being from twelve to fifteen inches nearer you. The weight is on the heels, and the right foot is turned so that you can neither advance nor retire, anchoring you in place at the mercy of an agile foe. Again, the barrel is turned to the left, requiring a movement of four inches or more to the right or left in order to prevent your sight or guard from locking with that of your opponent when you lunge. And worst of all, it takes two movements, one of elevation and then forward, to execute the lunge or thrust. And how much force is behind either? That of a cross section of the wrist at its frailest part.

The proper way of making the lunge or thrust has been thoroughly tested out. Trained noncommissioned officers who believed in the old ways, were pitted against recruits of less than three months' service and with even less fencing instruction, both armed with stiff bayonets. The old methods were ineffective, for the recovery from a thrust or lunge was too slow. Sore arms and body testified to this fact if nothing else. The stiff bayonet in the hands of one who knows how to use it, is the most convincing argument there is. We have found no one yet whose faith in the way of the Manual is so great that he will stand the punishment, and who does not gladly change his methods.

After the men in a squad were familiar with the ability of its various members and had learned some of the principles of fencing, they fenced members of other squads. There was keen rivalry among the squads to be rated as the best fencers.

Light sticks with a piece of rubber tubing on the end and equal in length to that of service rifle and bayonet, were provided for the men, encouraging practice in attack and defense of the head and fast foot and arm work.

Men developed their own individual schemes of attack, usually some form of a delayed feint and for a time would be successful, but sooner or later the attack was solved, and the defense for it learned.

Men were required to practice with the Ordnance bayonet, but none of them liked it, and although free to choose it in any competition, they always took the stiff bayonet.

The regimental contest was conducted pursuant to the following order:

Headquarters Thirtieth Infantry,
Plattsburg Barracks, N. Y.,
April 9, 1915.

MEMORANDUM:

The following rules are prescribed for the Regimental Bayonet Combat Test, to be held April 26th instant.

1. Equipment—as armed by Company Commanders. Provided:

a. That a rifle issued by the Ordnance Department for fencing must be used;

b. That rifle and bayonet used is not longer than service rifle with bayonet attached;

c. Any man believing himself to be at a disadvantage because of the nature of his company fencing rifle shall be at liberty to use one similar to that with which his opponent is armed.

2. Two companies in each battalion, designated by the battalion commander, will fence the remaining two companies. The two winning companies in these two bouts will fence each other to determine which company will represent the battalion in the finals.

3. The three winning companies, one from each battalion, shall on the following day, fence in the finals to determine their order of standing in the regiment. Two of these companies, as decided by lot, shall fence each other, and the loser (designated as the second company) shall, after an appropriate rest, fence the third company. If the third company wins, it shall fence the final bout with the first company, to determine the final standing. If the third company loses, the fencing will then be completed, and the final order will then stand, first, second, and third companies.

4. Companies shall fence each other as follows:

(*a*) Each company is required to fence eighty per cent of its strength present for duty, as shown on the morning report of the day before.

(*b*) Each company, immediately before fencing, shall be accurately sized under the supervision of the company commander, in column of files, tall men at the head of the column, each man given a number consecutively from head to rear, number one leading.

(*c*) Opponent companies will be reported in column of files to the judges at the place of contest, from diametrically opposite directions, with the fencing equipment upon the first eight men. In case of unequal strength, the surplus men of the stronger company will be excused from the rear of the column. The numbers one of each company will then be paired off as contestants and will fence each other for one minute. After each number one has finished his bout, his equipment will be placed upon number nine of his company and so on down the entire line, so that one man is fencing and seven men are always ready. Each company commander will be held responsible that there is no unnecessary delay in his company.

(*d*) Individual bouts will be decided by points. In case of a tie, the opponents will fence another minute. The company winning over half its bouts will be declared the winner over its opponent.

5. Any thrust, cut, or lunge that will disable, will count one point.

6. Paragraph 106 of the bayonet fencing manual, 1913, will govern with the following corrections and additions:

Section 2, Omit.

Section 9. (*a*) If one of the opponents starts to attack, his opponent must parry before countering; otherwise the one first attacking wins the point.

(*b*) Club rifle and butt strike are prohibited.

(*c*) Any cut, thrust, or lunge that will disable will count one point (except at parts at which attack is prohibited in paragraph 106 above.)

(*d*) That companies armed with stiff bayonets of wood or metal, shall not lunge, thrust, or cut at the head of any opponent, and any point so made will not be allowed. Continued attack at the head while so armed shall cause disqualification. The present mask does not protect the head from attack with a stiff bayonet.

(*e*) After obtaining a point, the contestant must return to an engage before he can score another point.

7. Appeal from the decision of the judges will be made only in writing to these headquarters.

8. The ordnance officer will furnish all available extra bayonets and bayonet screws for this test and will also furnish six stop watches, one for each combat point.

In this contest, "M" Company, after four hard fought and well contested bouts, defeated four companies and won the meet. The bayonet used consisted of a piece of pitchfork handle attached to an iron bar .25 inch in diameter, set four inches into the barrel of the musket. Two bolts were placed through barrel, bar, and bayonet, one three inches below the muzzle the other fifteen inches below the muzzle, and one bolt through rod and bayonet above the muzzle. Stocks of the fencing musket broke at the grip before this combination would break. The piece equipped weighed exactly the same as the service rifle and bayonet, and the balance was put in the same place by adjusting the lead core in the barrel of the fencing musket.

A complete discussion of all the points developed in our work would require too great length for this article. Some of them, however, may be touched upon. For a time one squad, our best one, was permitted to slide the left hand back in the lunge, thus getting a longer reach, but as the quality of the fencing promptly

deteriorated, this was prohibited. It was later tried with other squads, but without good results. In the final preparation, it was eliminated for the sake of the simplicity which was our keynote.

The general complaint that fencing will never become an art as long as a weapon of service weight is used, was also labelled and put on the shelf as exploded.

Why shoot service ammuuition on the range, since the kick is great and one can fire only sixty shots a day? When the test comes, we expect to use service ammunition and therefore require its use in practice. No new and lighter weapon can be issued for the bayonet charge; hence, men must be trained with a weapon of the length, weight, and balance of the service rifle. If it is too heavy in practice, it will be ten times too heavy in the charge.

The trouble with bayonet fencing is that the doctoring is attempted on a false diagnosis.

Attention has previously been directed almost entirely to long compilations of commands and plans for attack, and no technique of the rifle has been developed. The plates in our Manual are of the vintage of '76, when men were expected to hurl themselves on your bayonet and all one had to do was stand the shock. Our equipment likewise comes from some ancient period long since lost in countless changes.

If we will but bury the thought that the Ordnance equipment has to be used as issued, alter it to suit ourselves, handle the piece in a common-sense way, and stop making the noncommissioned officers do it all, bayonet fencing may yet take its deserved place as a sport and as a powerful factor on the battle line.

Changes in the Manual are needed, and our equipment as to bayonet and mask should be modified to meet the needs outlined above. Proficiency in bayonet fencing should be required of junior officers. A simple coordinated scheme of instruction for all regiments can be mapped out, and infantry officers at the School of Musketry required to take the course.

A bayonet fight in the 30th Infantry is now no kidglove affair. It is a combat with all the fight that is in and behind an Army team on the football field.

A beautiful silver cup presented to the winning company will cause still more strife another year, and best of all, bayonet fencing now ranks in interest with the best sport in the regiment.

The stiff bayonet has overcome all opposition—it has earned its place, and it had come to stay.

Bayonet Fencing Matériel.*

By Captain J. B. Fabre, 126th Infantry (French).

FENCING MUSKET.

UP TO the present time, the question of the combat matériel to be employed has been the object of much attention; it was, in fact, the first question and the most important one to solve, for a combat method can be learned only in combat, and for combat, a fencing musket is necessary.

A soldier who had never made an assault, even were he naturally as apt and as thoroughly trained as possible in the movements of bayonet fencing, would be only a mediocre fighter, awkward and without confidence, the day when he should have to engage in a real combat, like a fencing master thoroughly grounded in lessons but who has never made a fencing assault.

The question has been happily solved today in such a way as to give satisfaction to the most exacting.

We will describe the three systems of fencing muskets which have seemed to us to give the best results.

1. SYSTEM WITH THE RIGID BAYONET.

This is the system used in Germany and the one which we have personally used for a long time.

It consists of an iron or steel rod about 0.50 meters long and 7 to 10 millimeters in diameter, forced into the barrel of an instruction rifle (1874 or any other model).

The free end is enlarged, and a groove a few centimeters further down permits of firmly tying on any sort of padding (of overcoat cloth for example).

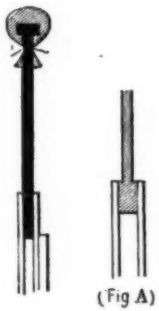
If the caliber of the musket is too large, it is sufficient to produce an enlargement at the end of the rod which can be fitted to the barrel (figure A).

This system has the advantage of being very simple to manufacture and very inexpensive, provided, of course, old rifles are available; but this is a condition which should offer little difficulty, for there must be in our arsenals enough old rifles to permit

*Extract from *"Méthode de combat à la Baionnette."* Translated for THE INFANTRY JOURNAL.

of issuing seventy-five to each infantry regiment (about six per company).

From the point of view of its operation, the weight of the bayonet, which is a little greater than that of the service bayonet, displaces the center of gravity of the weapon slightly forward and makes it a little more difficult to handle. We do not attach great importance to this objection because this displacement corrects the tendency that men who are not very strong have of letting the point fall in attacks. The slightly greater effort which they are required to make with the left arm to hold up and direct the point of the fencing musket, has the result of counteracting this tendency, and when they take up the rifle with fixed bayonet, they handle it with greater ease and more precision.



(Fig A)

Objection has been made to this type in that it might injure the combatants and that certain movements could not be executed as in service where the bayonet effects a penetration.

The first objection does not seem well founded in practice, in spite of its appearance of truth; this is because of the fact that in bayonet fencing, neither the attacks nor the returns are very swift as is the case with the sword or sabre. The thrusts are, on the contrary, delivered at relatively slight speed and, in a somewhat hard thrust, the strike of the bayonet produces the effect of a light blow with the fist.

One could, moreover, for the sake of greater safety and especially for the purpose of giving the men more confidence, make use of fencing plastrons, but we have never considered it useful

to do so, and we have never had the slightest accident; men who are somewhat afraid at first, rapidly become accustomed to it when they see that they are not in any danger.

As to the objection that this system nullifies the mechanism of penetrating attacks and returns, this is of little importance if we take into account the fact that in service, a penetrating thrust will often be stopped by the resistance of the clothing or equipment and that it will be necessary to add to the first penetration an energetic thrust to complete it. It is not indispensable to represent this latter action. The inverse objection could be made to the weapons in which the bayonet recoils into the barrel; that is, that under the slightest pressure, the bayonet yields too easily and does not give the impression of resistance which one would find in actual combat.

This is, in our opinion, a matter of secondary importance which does not deserve to occupy our attention.

2. SYSTEM OF THE MOBILE BAYONET (TWO TYPES).

We once tried a system with a mobile bayonet copied after the one we saw used at Joinville-le-Pont, with little success, however.

The bayonet could be thrust entirely inside the barrel and was held outside of the musket by a long spiral spring.

We experienced a complete lack of success, which caused us to abandon this system entirely.

It often happens, indeed, that one parries with the bayonet and not with the rifle, and moreover in the incidents of hand-to-hand fighting, the bayonet receives very heavy blows, so that at the end of a few moments of attack it is always bent and can no longer function.

We have tried several bayonets of this kind, and though they appeared to work wonderfully well, we put them all out of order after a few seconds of assault.

However ingenious it may appear, we reject any system based on the use of a bayonet having a play of more than 50 centimeters. Its serious defect has not escaped most inventors, and they have, therefore, understood that it was necessary to reduce the moving part of the bayonet so that the lower part can stand the force of blows and pressure without becoming weak.

First Type (119th Infantry).

Thus the 119th Infantry uses a bayonet with the following principle. A very strong hollow casing A B about 30 centimeters long is fixed to the end of the barrel by a band V and serves as a seat for a moving bayonet B C, operated by a spiral spring whose length does not exceed 10 to 20 centimeters.

Under these conditions, there is affected by a blow only the length B C, which is reduced to the indispensable minimum (10 centimeters) and which is, moreover, the least exposed; the casing A B, on the other hand, can, thanks to its solidity, stand the most severe blows and pressure.

Second Type (25th Chasseurs).

The 25th Battalion of Chasseurs has also solved the problem very happily by applying the same principle. A hollow bayonet of a caliber of at least 30 millimeters surmounted by a wooden disk projects from a wooden rifle of very rough construction. The bayonet is made mobile by means of the action of a spiral spring, but it projects beyond the rifle A B a distance of from 10 to 15 centimeters.

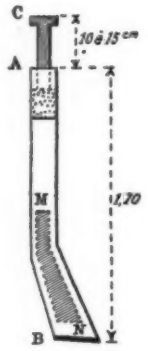
Being short and solid, it cannot be bent.

The only objection that could be made to this fencing musket is that it is too light, but it would be easy to remedy this defect by adding an iron plate to the butt and side plates (M N) so as to give it the weight and balance of the rifle.

The two above solutions with a rifle having a moving bayonet

have appealed to us through their solidity and simplicity, and their cost ought not to be very high.

The play of from 10 to 20 centimeters is sufficient to deaden the blow on the one hand and to simulate the penetration of the bayonet on the other.



Whatever model of fencing musket is employed—and we have personally no preference—we consider the question of matériel as sufficiently solved; it only remains to add fencing masks and gloves for the left hand made of overcoat cloth and lightly padded, taking care to separate the thumb sufficiently in order that the weapon may be firmly grasped.

The Seizure of Vera Cruz.*
A Mexican Version.

By César Reyes Aguirre.

POSTERITY should know how the landing of American sailors on the shores of Vera Cruz was effected, and with this object in view this booklet is written, taking into consideration the data furnished by the Mexicans who took part in the defense of the port, as well as that given in the official report rendered to the Navy Department of his country by Vice-Admiral Fletcher, who directed the operations of the disembarkation of the invading army. Before beginning, the reader should be familiar with the motives which forced the Government at Washington to decide treacherously to bombard with its warships, contrary to the rules of international law, a port which was unfortified and almost without defense.

THE MOTIVES.

Before the civilized world, the Americans say that they ordered the seizing of Vera Cruz because the Mexican Government refused to salute the Stars and Stripes as an apology for the offense committed against the United States through the seizure in Tampico, Tamaulipas, of a number of sailors of the American Navy who landed there for the purpose of obtaining gasolene for their launches. The landing of American troops was not made at Tampico, the place where the offense was committed, because the United States also wished to prevent the landing of a cargo of arms which was en route to Mexico from Hamburg, Germany, on the steamer "Ipiranga." The object of confiscating these arms was to prevent their being used by the Mexican Government against the United States in case war should be declared as the result of the unsettled affairs and the strained relations existing between the two governments. Later, however, the facts showed that these reasons were logically wrong, for the military stores

*"The Historical Truth Concerning the Taking of Vera Cruz by the American Troops," translated from the Spanish by First Lieut. J. E. Chaney, 25th Inf.

brought by the "Ipiranga" for the Mexican Government were landed at Puerto Mexico and reached their destination.

It seems that the landing of marines at Vera Cruz was due to the fact that the American Government wished to assist at all costs the Carranza rebels, and as at that time the triumph of Pancho Villa in capturing Torreón, Coahuila, was not so beneficial after all (for they were fighting against him with success at San Pedro de las Colonias, Coahuila), the Americans wished and succeeded in attracting the attention of the Mexican Government to the East so that it would not order more troops from the capital of the Republic against Villa and would withdraw from La Laguna those troops that were fighting against the Revolutionists. The Americans well knew that the Mexican Government was going to give more importance to the international question than to an internal one, and thus it was that the sudden calling of the division of General José Refugio Velasco to Mexico City enabled Villa to gain his victory at San Pedro and to reorganize his forces for the advance upon Saltillo. Such are the reasons advanced by one side or the other, the last ones possessing more semblance of truth.

On account of the resistance which the people of Vera Cruz made against this violation of Mexican soil, the port has been christened with the name "Four Times Heroic Vera Cruz."

A LITTLE HISTORY.

Vera Cruz is the port where the conquest of Mexico was started, and it is the door through which this nation communicates with the rest of the world. In olden times, the Indians gave to this port the name of Chalchicueca. It was discovered by Juan de Grijalva, whom Governor Diego Velázquez sent from Cuba to explore this part of the continent. Grijalva arrived first at an island and then at an Indian village opposite it named Ulúa, from which he named the port San Juan de Ulúa, on account of having arrived there on the feast day of Saint John. The city was founded by Hernando Cortés the Conqueror, and in 1599, while Gaspar de Zúñiga was Viceroy of New Spain, the city was moved to the site where it stands today and was known as Las Ventas de Guitrón. It is called Vera Cruz on account of the fact that Cortés entered it on Good Friday (Friday of the Cross). It is due to this fact also that the city has a red cross as coat-of-

arms. Its sons have exhibited a valor and heroism rarely found, valiantly resisting the aggressions of the invaders in the years 1847 (the Americans) and 1862 (the French), christening the city with the name "Thrice Heroic Vera Cruz." It has also been for Mexico in days of oppression the cradle of liberty, and it was from there that Juárez, in 1859, sent out his glorious and immortal decrees. It was there that, on the 16th of October, 1912, General Félix Díaz, undoubtedly familiar with the strategical importance of the port, made his famous *coup d' état,* taking the place without having to fire a shot, and initiated the uprising against the Administration formed by the revolutionary movement of 1910, which elevated Francisco I. Madero to the presidency of the Mexican Republic, the Administration which General Díaz denounced in his declaration to the Mexican people.

On Monday, the 27th of April, 1914, with the customary ceremonies, the flag of the United States was raised over Vera Cruz, indicating the formal occupation of that port by the American troops. The people of Vera Cruz witnessed this act with tearful eyes and indignation in their hearts.

A TREACHEROUS ASSAULT.

Having given the above in order that the reader, with a collection of data at hand, may readily grasp the contents of this article, I begin the story of this battle of Spartans against the legions of Xerxes.

On the 21st of April, about 10 o'clock in the morning, the United States consul at Vera Cruz, Mr. Canada, notified all his colleagues of the other nations that his Government had ordered an immediate and forceful occupation of the railway station and the custom house of Vera Cruz. As the foreign consuls had received no indications whatever to lead them to expect such an impetuous determination on the part of the Mammoth of the North, Mr. Canada's notice was a great surprise. They hastily sent all their countrymen aboard the steamer "Esperanza," which had been offered to them as a refuge, in order to save them from the horrors of the fight, now that they could not save their interests. That the United States failed to warn the foreign powers of an act so serious as the bombarding of Vera Cruz, an unfortified port, undoubtedly caused great surprise, and they endeavored to repair this negligence on the 29th of April when they

sent to all the foreign consuls a copy of a letter dated the 21st of April directed to General Gustavo Maas, military commander of the port of Vera Cruz, by Captain Huse of the Navy, Admiral Fletcher's Chief of Staff. In this letter Captain Huse requested General Maas to turn over the city without resistance, as otherwise he would be obliged to bombard it. General Maas has given his word of honor that he never received the letter, thereby showing that the American sailors made a treacherous assault upon the heroic port of Vera Cruz.

The order to land was unexpected even by Admiral Fletcher himself, and this is demonstrated by the precipitation with which he acted before the first sailors set foot on Mexican soil. At 10 o'clock in the morning a train of American refugees from the interior of Mexico arrived in Vera Cruz, and they had hardly reached the station when they were directed to the steamer "Esperanza." Scarcely had the last refugee arrived on board when they began landing operations, three hundred and fifty sailors from the "Prairie" landing first, followed by an equal number from the cruiser "Florida," all of whom came in by small boats towed by steam and gasolene launches. The American sailors, before landing, tried to change the color of their uniforms, for, as they were dressed in white, they feared that they would be extremely visible to the Mexicans, who undoubtedly would defend their native soil. In order to accomplish this, some put their uniforms in a solution of potassium permanganate, while others soaked theirs in a solution of yellow ocher, with the result that they all wore varicolored clothes, giving them the appearance of savages. The cruisers then approached the water front, and the marines, already drawn up in front of the city, formed in double column and pushed forward to the station, which they occupied without resistance. Then, going through the buildings, they came out on Montecinos Street, and at the summit of Independence Street a section was detached to take possession of the cable office.

THE FIRST SHOT.

The people, who were watching these maneuvers of the Americans, began to run confusedly through the streets of the city with shouts of "Kill the invaders! Down with the Yankees! Long live Mexico! Vengeance! Vengeance!"

When the platoon of marines was detached to take the cable office, the first shot was fired, followed by a shower of stones thrown by boys and women, but they marched on without returning the fire, and without noticing the harmless missiles. From the Station, the Americans continued their route behind walls to Cinco de Mayo Street so as to follow the avenue all the way, but they found themselves confronted by a group of ten Mexicans, headed by young Cristóbal Martínez Zorrilla. These brave ones were in observation at a corner from which they greeted the invaders with a well-directed volley, which stopped them instantly. The sailors, before replying, waited for the orders of their commander, Captain Rusch of the Navy, who, in order to protect his column, had to place a machine gun at the end of the street, which, by its position, swept the street throughout its length and breadth. The Mexican sharpshooters hid behind a parapet and a bloody fight ensued, until, riddled with bullets, the young Cristóbal Martínez Zorrilla was killed, with almost all his companions, as well as some men of the city who were aiding them in their fight by throwing stones upon the invaders or seizing the arms of those who were killed. Let us take off our hats before the remains of these heroes! In this engagement, the Americans also had some casualties, which they rapidly sent back to their ships.

This fight attracted the attention of the American chiefs, and at 11.20 a. m. the marines and sailors from the "Prairie" formed into three companies with two Colt rapid-fire guns and two field pieces of 75 millimeters, were organized into a column in front of the Station, and after falling in, were put in march parallel to Captain Rusch's column.

OCCUPYING BUILDINGS.

In the combined advance of these invading columns, the Americans occupied their consulate first, then took possession of the postoffice, and continued their march towards the custom house through Morelos Street. But then a stubborn resistance was initiated. From every street corner, from every balcony, from all the roofs, rifles thunder and revolvers crack. The Americans are demoralized, and their lines are broken by those who fall dead or wounded, or by those who seek refuge in the corners of the houses, from which they are driven by the women, who empty

vessels of hot water upon them. The Americans, although they are returning a hundred blows for every one received, find it necessary to advance very slowly, step by step, taking house after house. Shots are raining upon them, and they cannot tell from where they are fired.

In the tower of the library building, a skilful sharpshooter, and he alone, detains for a long time that column of 300 men, due to the fact that each of his shots means that an American sailor falls. To dislodge that hero from his position, the 120-millimeter guns of the "Prairie" have to demolish the tower which serves as his bulwark, burying beneath its ruins so worthy a descendant of Cuauhtemoc. To occupy the custom house, distant only 200 meters from the station, the American sailors took one hour, such was the resistance opposing them. Once they had gained the custom house, they intrenched themselves in order to defend and hold this position, which in casualties had cost them so dearly.

THEY INTRENCH.

With the butts of their rifles they forced the doors of a nearby store belonging to an individual of Spanish origin, and removed from the interior all the sacks of flour, rice, coffee, beans, and other grains, with which they constructed breastworks so as to hold their position there during the night in wait for reinforcements, for the other sailors in that part of the city were detained and had to send back for a 75-millimeter gun in order to protect themselves and make preparation for their advance. Armed Mexicans were few, but they were scattered and occupied invisible positions and caused the invaders difficulties little expected by them. Notwithstanding this circumstance, many Mexicans were seen on the ground shot, but almost all of them were defenseless persons shot down by foreign bullets.

The sailors from the "Prairie" would have been dislodged from their defences if those from the "Utah" had not come to their rescue. With this reinforcement and in spite of the gallant resistance they encountered, a detachment entered the yards of the station, and, under the protection of the cars collected on the railway, succeeded in occupying the electrical plant. After this advance, for the time being they did not undertake any other movement, for the sailors were exhausted from their labors and lay down, protecting themselves with the sacks of merchandise

which served as breastworks. Meanwhile, in Independencia and Cinco de Mayo Streets, the people, in conjunction with the police and a few soldiers, were making a defense of the places trampled by the hobnailed shoes of the "blue jackets." At the moment in which the first shots were fired, there was taking place in the Naval School a heart-rending scene.

THE NAVAL SCHOOL.

With letters of diamond, there is written in the pages of the history of Mexico the name of the institution whose sons, young boys, saved the honor of the Mexican National Army commanded by the Commander of the Port, General Maas, who withdrew to a place of safety, abandoning the post entrusted to his care and to his patriotism. I am speaking of the Naval School, and I must refer to the manner in which these boy students made preparations to defend their native soil.

When it was learned that the sailors had landed in the port and were advancing towards the center of the city, Vice-Admiral Azueta, director of the heroic training school, hastened to his students, and, as he entered the principal patio of the school, shouted with a voice of thunder: "Viva Mexico! Students of the Naval School, your native land demands your lives! The hour has arrived to die for your country!" The guard took arms, and Vice-Admiral Azueta ascended the stairs to the second floor and ordered all the students to arm themselves. Quietly and in formation, each company went to its arm racks and took rifles and 200 rounds of ammunition. Now, armed and full of enthusiasm because the moment had arrived for them to sacrifice themselves upon the altars of their country by defending its sovereignty, the boys began to strengthen their position, the mattresses of their school beds, which they placed before each window, serving as parapets and barricades. They took up their combat positions and quietly awaited the moment for entering into action, which arrived soon enough but without the danger that they incurred on the second day of the fight, for it was then that the American sailors attacked with greater force, due to the fact that they received powerful reinforcements during the night. From the first phases of the fight, Admiral Fletcher saw that his 800 marines were insufficient to take the port, unless he should demolish the city with the powerful guns of his ships. Thus it was

that he decided to ask aid from Tampico, and getting into wireless communication with Vice-Admiral Badger, the latter hastily set out with his fleet and entered the bay of the port at midnight on the 21st. From 1 o'clock in the morning of the 22d, groups consisting of approximately 350 men from each ship were landed and organized, under the direction of Admiral Fletcher, into a brigade of three regiments of infantry of four battalions each and one battalion of artillery. The first regiment was formed in column in front of the custom house; the second was disembarked near the custom house and was formed on the Mole. The third was formed in front of the station and in Montecinos Street. Each regiment was commanded by a captain of the Navy, as was likewise the entire brigade, which consisted of 4,200 men.

A NEW ADVANCE.

That powerful column of invaders which was going to fight against two or three hundred armed patriots put its third regiment in march first. It ascended Montecinos Street to the electric plant, then turned to the left, and marched south with the regiment divided into parallel columns. The fraction furthest away followed the line of the railway. These groups encountered only a weak resistance. The first regiment was also divided into columns which marched in lines parallel to the sea, following Morelos, Zaragoza and Independencia Streets. This regiment was severely punished, for they were fired upon from all sides. The guns of the "Prairie," the "San Francisco," and the "Chester" poured a deadly fire upon the city in order to support the advance of the foot soldiers, who were compelled to advance and conquer inch by inch the ground which the people of Vera Cruz were defending.

A shot fired from the war vessels upon the municipal palace struck its clock and stopped the hands at 7.12 in the morning of the 22d. The Mexicans fortified themselves on the balconies of the Annex to the Hotel Diligencias, and from there they sent a rain of bullets upon the invaders, who, indignant, shot at the windows, killing ten of the men who had posted themselves there. The Americans also made a powerful effort to dislodge the patriots who were resisting them from the belfry of the cathedral. However, the greatest effort that the 1,400 men of the second regiment of American sailors had to make was when they were

stopped by the seventy boy students who were defending the Naval School.

THE DEFENSE OF THE NAVAL SCHOOL.

After landing in front of the custom house, the sailors of the second regiment, with their captain at their head, marched in closed column to occupy the Naval School, which they thought had been abandoned, but, to their misfortune and to the glory of the Mexicans, the boy students allowed the invaders to approach within 100 meters, and then, when they had them in this position, a burst of fire came from all the window blinds. At the same time a window was half opened, and a machine gun stuck out its tiny but deadly mouth and scattered bullets in every direction. Those 1,400 men hesitated, overcome with terror, while the boy students shouted at them, "Advance, cowards, don't be afraid!" The sailors of the first two ranks threw themselves on the ground, some through fear, others wounded, and not a few never to rise again, while some left the closed column to seek cover. The captain who commanded them was a brave man, and we must do him justice. He did not move from the most exposed position, and after some work, succeeded in reforming his column, which he extended in line of skirmishers, and moved forward. But this was not sufficient, for the boy students did not lose any of the patriotic enthusiasm which animated them, and, proud of their power and with the fury of the sons of Mars and Huitchilopoxtle, they fired upon those who were taking possession of their sacred Mexican soil.

The 1,400 men of the second regiment were twice repulsed, and then, asking aid, Admiral Fletcher directed that the 1,400 sailors which formed the first regiment should co-operate with them in the capture of the School. Twenty-eight hundred men, protected by the heavy artillery of five powerful warships, fighting against seventy boys armed with rifles! What a crime! But let us continue our story. When the first regiment arrived on the scene, it attempted to flank the School, but with the same results as the second regiment, for a lively fusillade greeted it and stopped its march. This irritated the invaders, for during the whole morning their attack had failed at this point, and it was necessary to put an end to such a situation. The bombardment of the School was then ordered.

THE BOMBARDMENT OF THE SCHOOL.

To the projectiles of rifle and machine gun which the invaders were pouring upon the front of the Naval School were now added those from the shells of the 120-millimeter guns, which practically converted the building into a sieve. At this time there occurred an act so wonderful that, in attempting to describe it, one feels his heart swell with patriotism and his eyes fill with tears of gratitude for those who knew how to die defending the dignity of their nation. It is about a boy, a hero of twelve years. His name was Colín, and he was the sentinel at the main entrance to the Naval School, of which he was a cadet. When the invaders began their attack upon the building, the guard closed the door, but replied to the fire of the assailants from the embattlements of the guard room over the entrance. The boy Colín was in the room at the beginning of the bombardment, firing upon the enemies of his race and country. A shell entered through the door frame, tearing it down as well as a part of the guard room from which Colín was firing, but without discouraging him. Through the effects of the shot, he fell to the floor amidst a cloud of dust and covered with debris. All his companions thought he had been killed, but with astonishment saw him pick himself up, laughing, brush off his clothes, grab his rifle, and again begin to defend his post, sacred to him as it is to every sentinel who has military honor. He kept on fighting, but a few moments afterwards a new shell accomplished the infamous work which the first failed to do, and this time the sentinel Colín passed into immortality to join his brothers, the boy heroes of Chapultepec, students of the Military College, Barrera, Márquez, Montes de Oca, Molgar, Suárez, and Escutia, who then, as today, opposed their breasts to the bullets of the American invaders. It would take the lyre of Homer and the chisel of Phidias to put in verse and carve in marble the heroism of the sentinel Colín.

The war vessels were firing from a distance less than 800 meters and threatened utter destruction of the School. The Mexican Vice-Admiral Azueta, considering that he had already punished the invader, although not as much as he deserved, and realizing also that to remain there longer meant a useless sacrifice of his seventy students, ordered a retreat. Corporal Úribe,

sixteen years old, performed an act no less wonderful than that of his companion, Colín, for alone he remained to cover the retreat of his companions and kept up the fight until he fell mortally wounded by several bullets and a fragment of shell. Dying and covered with blood, he dragged himself to his bed, where, two hours later, his loving native land gathered him in her arms and placed him beside her favorite sons. This sacrifice was not useless, for it enabled his comrades, with Vice-Admiral Azueta in charge, to abandon the School, that place so dear to them, and from whence so many courageous men have gone forth, that sanctuary in which the Mexican youth is taught to die for their country.

THE AMERICANS TAKE THE SCHOOL.

When the bombardment had silenced the fire from the Naval School, the Americans advanced towards it, believing that they would find in the ruins the bodies of thousands of Mexican soldiers who had stopped their advance, but, to their surprise, they saw only the corpse of the sentinel Colín and the suffering Corporal Úribe, two young boys, who were saying to them, "You see that patriotism and valor are in the hearts of good Mexicans." Two hours after the School had been occupied by the American troops, Corporal Úribe died. But the fight had not ended yet, for towards evening a few volunteers, hardly more than 150 or 200 but very enthusiastic and skilfully concealed, continued shooting at the invaders. Among these patriots there were soldiers, gendarmes, civilians, and a prisoner or two who had escaped from San Juan de Ulúa.

The bombardment kept up relentlessly. A shot from the "Chester" struck the house of the French Consul, and, as it pierced the walls, narrowly escaped killing Mr. Brouget. A number of bullets hit the English cruiser "Essex," wounding in the foot the ship's commissary. The monument to Juárez, which served as cover for three Mexican sharpshooters, was demolished in part. In searching for the defenders of their country, the Americans broke down the doors of the houses and made all the occupants get outside. At midday the firing was very isolated, and towards 5 o'clock in the afternoon the three regiments were in the Alameda in front of the Palace of Military Government, and the situation seemed to be under control. Exhausted,

the Americans now intrenched themselves, so broken in morale that, in spite of their triumph, they would have been powerless to sustain another day's fighting. But, happily for them, the houses of the port could no longer furnish an asylum for the defenders of the place, who on all sides had to withdraw owing to the scarcity of munitions. Afterwards an armistice was agreed to in order to carry through the peace conference at Niagara Falls, and for the present they had nothing to fear, but, nevertheless, hostilities were still being committed. Every night, for a period of ten days, their sentinels were fired upon from concealed positions and sacrificed as a protest against their stay in a land that did not belong to them. In order to avoid these deaths, the American authorities of the port ordered that a general search be made to collect all firearms and knives in possession of the inhabitants. The Americans announced seventeen deaths and forty-seven wounded, three of them seriously, through the occupation of Vera Cruz, but their losses were much more numerous. They cannot be ascertained exactly, as their dead and wounded were removed to the ships to which they belonged.

From a military point of view, the occupation, which ought to have been accomplished with only 700 men and without firing a single shot, required 4,000 men, notwithstanding the retreat of the Federal garrison, and the fight lasted for more than twenty-four hours.

On the 27th of April, the flag of the United States was hoisted over Vera Cruz, but even nature protested against this outrageous act upon Mexico, for there were no breezes to support it, and it fell in languid folds as if ashamed of being in a land of patriots.

OFFICIALS ANNOUNCED.

Vice-Admiral Fletcher proceeded to announce officials and establish a government. He named Mr. Kerr Governor of the Port, while General Funston was on his way to take over the military command.

Admiral Fletcher issued the following proclamation to the people of Vera Cruz:

The naval forces of the United States under my command have temporarily occupied the city of Vera Cruz in order to superintend the administration of public affairs on account of the disturbances now prevailing in Mexico.

All persons holding office under the municipal government of this port are invited to continue in the performance of their duties as they have done up to the present time. The military authorities will not intervene in the civil and administrative affairs so long as the good order and peace of the town are not disturbed. All peaceful citizens can safely pursue their usual occupations assured that they will be protected both in person and property as well as in correct social relations.

The undersigned commander gives assurances that there will be no interference with the civil authorities, except in cases of absolute necessity and in furthering the observance of law and order.

The collection of taxes and the employment of same will continue in the same manner as heretofore and in conformity with law.

F. F. FLETCHER,
Rear Admiral.

A Pacifist Letter and a Reply.*

A letter has been circulated among 80,000 college students since March 30, 1915, calculated to poison the minds of young men against military training and particularly against Student Camps. The letter and a reply thereto by a student of the University of California, and some comments by Brigadier-General C. A. Woodruff, United States Army, Retired, are presented herewith.

THE LETTER.

Paragraph I.

FELLOW-STUDENT: We venture to approach you on the subject of summer training camps for college men, to learn your opinion of their effects. This is part of an extended inquiry which is being made among college circles on the subject, in the endeavor to formulate the general academic opinion and if possible, to offer the best solution to the problem.

Paragraph II.

You have completed what is in American life rather a unique experience. You have associated with military specialists and enthusiasts, until it is but natural that you should have caught a great deal of their enthusiasm. There are few things quite so infectious as military ardor, especially when it is known as "highly patriotic." Is it not perhaps possible that the great object of the student summer camps was to spread the enthusiasm for the military life?

Paragraph III.

Some high military authorities have admitted this, by stating that if there were universal conscription, that would stop "all this anti-militaristic talk." As the Secretary of War said in his 1913 Report: "The benefit of these camps to the Nation is that they foster a patriotic spirit without which a Nation soon loses its virility and falls into decay. They spread among the citizens a more thorough knowledge of military needs. . . ." Yes,

*"A Letter from the Collegiate Anti-Militarism League and a Reply." The Blair-Murdock Company, San Francisco, printers.

they do, they spread a knowledge of what the military enthusiasts consider the military needs.

Paragraph IV.

But as you know, they do not attempt to spread any knowledge of The Hague, or International Arbitration, or the sanctity of treaties, or international law, or even the value of international commerce, the significance of international business companies, or the value of exchange professors and student scholarships such as the Rhodes scholarships. Indeed, it happens that many of their advocates are really men with strong feelings of race and national prejudice rather than men of international vision.

Paragraph V.

"What effect did the student training camp have on your world outlook?" is the question, therefore, for which we ask your reply. Did it make you more anxious to maintain friendly relations with other countries, and wider in your outlook upon the world and race questions? Do you think you have made a positive contribution to the safety of our country rather than the beginnings of the same path that the European nations travelled?

Paragraph VI.

Or, as you look back upon the whole experience in your training as a college man, fitted for the bigger life and thinking in more enduring ideas and ideals, do you consider that the college training camp was on the whole a narrowing experience, that it tended to center your enthusiasm in national affairs, above all, in the details of national hostilities and misunderstandings, and perhaps inclined you to a prejudice against the foreigner in general?

Paragraph VII.

Please keep the question clearly before you, for it is the only one to which we wish an answer. You must not consider for the time being the advantage of outdoor life and good physical exercise nor of discipline and obedience. There can be no doubt that they are assets, but they should not confuse the present issue, which we have outlined above. We are looking at the whole question of international relations and understanding, of which militarism and military training are only one phase and

constantly becoming a smaller one. We are trying to find out to how great an extent the summer camps are responsible for dwarfing the college man's vision to this one phase.

Paragraph VIII.

One thing more: we are not trying to argue, but to conduct a strictly impartial inquiry. For the value of this we must rely upon your very kind cooperation, and we hope that you will write to us unreservedly on this subject. It cannot be necessary for us to remind you that in the greater problems of college education and internationalism, this subject calls for your serious and considerate attention.

In the fellowship of college men,

Sincerely yours,

K. G. KARSTEN, *President.*

March 30, 1915.

THE STUDENT'S REPLY.

Dear Sir: I have received your letter, dated March 30, but not postmarked until May 13, the day after Commencement Day at the University of California. I read your letter most carefully, I re-read it several times, and I have seriously and earnestly thought over the matter before writing this reply. You ask for my unreserved opinion on this matter. Despite the fact that you state that you are not trying to argue, your letter is one of the cleverest and most skillfully put together arguments that I have ever read; and therefore it seems best to take up the letter paragraph by paragraph as it is written.

See Paragraph II of Karsten Letter.

You state, "Is it not perhaps possible that the great object of the student summer camps was to spread enthusiasm for the military life?" This interests me, I read on for proof, and I find this: "Some high military authorities have admitted this by stating that if there were universal conscription, that would stop all this 'anti-militaristic talk.'" I am only an average college student, and I can not see how these military authorities, names unknown, have admitted anything like what you claim they have. You seem to take for granted that voluntary student camps are the same as universal conscription. I am sure that

President Woodrow Wilson, or ex-President William Taft, or ex-President Theodore Roosevelt would be bitterly opposed to universal conscription, but each one is heartily in favor of the military camps.

See Paragraph III of Karsten Letter.

Your second "proof" is a quotation from the Secretary of War in 1913, in his statement, "They (the camps) spread among the citizens a more thorough knowledge of military needs." In comment you add, "Yes, they do, they spread a knowledge of what the military enthusiasts consider the military needs." But you did not quote at the same time the words of President Wilson in the very same year, "The camps will tend to disseminate sound information concerning our military history and the present policy of our country in military matters, in addition to giving the young men themselves a considerable amount of *practical* military instruction, which would be useful to them in case their services should ever be required."

Your first point of attack against the military summer camps, that their great object is to spread enthusiasm for military life, must fall for lack of proof.

See Paragraph IV of Karsten Letter.

Your second attack against them is this, "But, as you know they do not attempt to spread any knowledge of The Hague, or of international arbitration, or the sanctity of treaties, or international law, or even the knowledge of international commerce, the significance of international business companies, or the value of exchange professors and student scholarships such as the Rhodes scholarships."

See Paragraph IV of Karsten Letter.

Of course they do not; they are not intended to; they are not fitted to. But is that any reason to condemn them? Therefore, we should never take up Bible study, because it does not mention at all any of the above subjects; neither should we study physics, nor chemistry, nor zoology, because they do not attempt to spread the knowledge of these subjects. And also you fail to mention what the camps do attempt to spread, camp sanitation, personal hygiene and cleanliness, habits of regularity, and discipline. But

the fact that you mentioned The Hague and international law as not being taught in a place where no one would expect them to be taught, naturally leads one, unacquainted with the camps, to conclude that the very opposite is taught in the camps, that treaties are not sacred, nor is international law the bearer of any sanctity. You dare not make that statement outright, but you slyly insinuate it between the lines. Do you expect that, in the coming military camps this summer, the instructors in charge can preach on the sanctity of treaties and of international law, when Germany has invaded Belgium, when Italy has repudiated the Triple Alliance, when the rules of international law as regards land and naval warfare have been broken day after day? Do you condemn the summer camps, because the lecturers do not speak of The Hague, after the *Lusitania* was torpedoed, after gas bombs have been used, after defenseless non-combatants have been slaughtered in cold blood, and their homes pillaged?

See Paragraph IV of Karsten Letter.

You go on in further strengthening of your second count against the summer camps by stating, "Indeed, it happens that many of their advocates are men of strong feelings of race and national prejudice, rather than men of international vision." Do you think for an instant that you can find men, real men, who have no race and national prejudice? A person can not change his grandfather, as Dr. Kallen states; his nationalistic spirit is within him and can not be destroyed. A man without a country must be a sorry sight. We are Americans in this country—at least I presume you do not carry your nationalism to its logical conclusion of repudiating Americanism in favor of internationalism; yet when the war broke out, the German-American was a rabid partisan of the "Vaterland," the French-American was as strongly in favor of the Allies. The fundamental cause of this war was nationalism. Austria attempted to Magyarize her Slavic subjects, to destroy their national self-consciousness, but this war testifies to the impossibility of it. Slavic Russia rushes to the aid of Slavic Germany, Teuton Germany comes to the aid of Teuton Austria. Germany took Alsace-Lorraine from France and attempted to teutonize the French there, to graft the goose-step on the Frenchmen, but as long as a national center remained, as long as there was France to look to, this was impossible, and so long must Germany look to France for an enemy.

Why is it that the sight of the Stars and Stripes stirs the blood of every American on foreign shore? Nationalism is one of the strongest traits the human animal has. You speak of the international vision of exchange professors, and yet Professor Moritz Bonn, and other German exchange professors, are among the most earnest German supporters in this country. And why not? Would you condemn them for following natural instincts, for having strong feelings of race and national prejudice? And yet you condemn the instructors in military camp for having the same feelings and prejudice that those exchange professors have, whom you praise.

Your second count against the summer camps must therefore also fall from want of proof.

See Paragraph V of Karsten Letter.

After having presented your arguments on the subject, you ask me, "What effect did the student training camp have on your world outlook?" "Did it make you more anxious to maintain friendly relations with other countries?"

A great number of men in this country have insured their lives against death. Does that mean that they are anxious to die? That their outlook upon life has been narrowed? Not only does the average man who insures his life intend to live, but he does all in his power to keep on living. So it is with the summer camp. It is to me like insurance, insurance against foreign attack. Just as the man who insures, does so that his family will be protected in case he dies, so I think every American should prepare himself for the protection of his family and countrymen in case the time should come. Your arguments against the camps, if applied to insurance, must condemn that beneficial science, because you argue, by insuring one looks to death.

It is the same with fire insurance. When the average man insures his home or property, he does not give up all thought about fire protection, he does not encourage the combustion of his buildings, but if you are consistent, these are things you must claim from your arguments against the military camps.

When the average man insures his life, is he anxious for death? When the average man insures his property, is he more anxious for fire? When the average man prepares himself in a military camp, is he more anxious for war? The answer to all three questions is the same. I want peace, I desire peace

as strongly as you, but in case I am needed to defend my mother and sister and country, I want to be prepared. You probably remember what ex-President Roosevelt said, "The surest way to invite disaster is to be opulent, aggressive, and unarmed."

See Paragraph V of Karsten Letter.

You ask me, "Do you think you made a positive contribution to the safety of our country rather than the beginnings of the same path that the European nations travelled?" I think that I have; it has been a very small contribution, but it has been a contribution, and if every American did the same as I did, we would no longer have to fear any foreign power. Despite the fact that you admit that this is your country, you have as your motto, "Above all nations is humanity." Far better would it be if you remembered that *above all, nations are human.* Just as man is selfish and always looking out for himself—the survival of the fittest, remember—so it is with nations. After this war, with its broken treaties, with international law scorned and rejected, can you still claim that it is practical for the United States to go unarmed and unprepared in the midst of the other members of the family of nations who are human and therefore selfish and looking out for themselves? Your whole stand lies on the premise that all nations are super-human and perfect. Internationalism is an ideal, a wonderful ideal, but it is an ideal. You must recognize facts, and especially the one fact that *above all, nations are human.*

Suppose this country found herself attacked, just as Belgium did. (Remember Belgium was not only protected by your beautiful motto of, "Above all nations is humanity," but she was protected by solemn, sacred treaties.) I could then thank God that I was prepared. How would you feel to have to stand idly by while your mother and sisters were killed and insulted before your eyes, while you stood idly by, not because you did not want to defend them, but because you did not know how? Do you think that your shouts of, "Above all nations is humanity" would stop the foreign invaders? If this country is attacked, I want to feel that I am at least equal to one of the enemy, while you, scorning preparedness, would be about equal to one-tenth of an enemy's soldier! How does a man feel who scorned fire insurance when his house burns before his eyes? That is the way you would feel when your country is ravaged before your eyes because you

scorned insurance in the shape of preparing. You might state that the United States will never be attacked. Two years ago, you would have said the same thing about Belgium. Remember that *above all, nations are human.*

See Paragraph VIII of Karsten Letter.

In concluding, you state, "We are not trying to argue but to conduct a strictly impartial inquiry." If this be a strictly impartial inquiry, why do you ask, "We are trying to find out to how great an extent the summer camps are responsible for dwarfing the college man's vision to this one phase." You slyly take it for granted that it does dwarf the college man's vision, and you seem to think that the only question is how much it is dwarfed. If this be an impartial inquiry, why didn't you ask, "What is the effect of summer camp on the college man?"

I hope you are sincere for your sake, for my sake, for my country's sake. Because, if you are sincere, you will be ready to hear the other side of the question, and you will be ready to see where you were wrong. I dread to think that you might be insincere in your stand, because then you might do irreparable harm to our country.

I notice that you gave no address except a post-office box. I shall be in New York within ten days, and I would like to call on you and talk this matter over personally. I would appreciate it if you would send me your address. My New York address will be 214 West Ninety-second Street.

Unreservedly yours,

STANLEY M. ARNDT.

May 26, 1915.

MR. K. G. KARSTEN,
New York City.

AN ANALYSIS OF THE COLLEGIATE ANTI-MILITARISM CIRCULAR LETTER.

See Paragraph III of Karsten Letter.

Notwithstanding the motto of the League, "Above all nations is humanity," all thought, argument, and special pleading is devoted to the bogey "militarism," while they leave "humanity" to the care of internationalism, which is a weakling not able to care for anyone.

Internationalism is an attractive vision for all, but only senti-

mental theorists rely upon this unsolved dream, whereas if during the past year, our nation had had a navy powerful enough to protect commercial boats on the high seas, regardless of what any other nation said, our foodstuffs would go to any and every neutral, and every unblockaded port in the world, and humanity would rejoice that women and children could not be starved at the brutal dictation of any belligerent. Had that been the situation, our nation, sustained by our navy, would be far above the League and other ultra-pacificists in practical "*humanity*."

See Paragraph V of Karsten Letter.

The letter sneers at patriotism, at "Love of one's country; the passion which moves a person to serve his country, either in defending it from invasion or in protecting its rights and maintaining its laws and institutions." Do the members of this League love their country? Would they defend it from invasion? Would they protect its rights? Would they maintain its laws and institutions?

If the members of the League can answer these questions in the *negative*, their position is logical. They are at heart men and women "without a country," and I wish we had an Edward Everett Hale to furnish them transportation.

See Paragraph VIII of Karsten Letter.

In paragraph VIII, they *say*, "We are not trying to argue." I regret this, for *they know* that their whole letter, save paragraph I, was an argument.

I shall answer some of the questions asked and points made, all intended as arguments against "summer training camps for college men."

See Paragraph II of Karsten Letter.

Paragraph II. I answer that question "No." The "great object" was *practical humanity*, to instil a knowledge of how to live in camp, to preserve life if volunteers are called out by giving the young college men, who naturally should be leaders, an intelligent idea of how to care for their men. In the Mexican, Civil, and Spanish wars, the losses of green troops from easily preventable causes were terrible. It is estimated that one hundred thousand lives were sacrificed to ignorance in our Civil War, and to prevent the recurrence of such a state of affairs was the "great object" of the "military specialists and enthusiasts," whom

the League imagined were debauching the humane minds of the young men entrusted to their swashbuckling guidance and trying to make bloodthirsty creatures of them.

See Paragraph III of Karsten Letter.

Paragraph III as well as paragraph II is intended to give the impression that the "military specialists and enthusiasts," officers detailed for camp duty, are simply trying to stimulate a love of military glory and that their views about "military needs" must be so prejudiced as to be absolutely worthless. Just think of applying such reasoning to any business or profession! Physicians and surgeons are consulted as to hospital needs. College professors are supposed to be best fitted to arrange the course of studies for a college.

See Paragraph IV of Karsten Letter.

Paragraph IV. Certainly they do not teach international commerce or business, never mention exchange professors, Rhodes scholarships, currency, or tariff—it is not a school for statesmen, diplomats, or college professors, but a camp of instruction for intelligent young men in matters pertaining to the care and training of soldiers and company officers. The instructors understand that subject, and they instructed these young men in military hygiene, camp sanitation, and first aid to the wounded.

I will admit that most advocates of these camps are strongly prejudiced in favor of the American race and nation.

See Paragraph V of Karsten Letter.

Paragraph V. If the training was what was intended and directed by the authorities, the young men certainly made a positive contribution to our country's defensive strength and did not observe a trace of any path that leads toward militarism. The fact is that one troop of cavalry, one company of infantry, a section of artillery, a detachment of engineers with picks and spades, a detachment of the Signal Corps with flags, torches and telegraph instruments, and a detachment of the Hospital Corps with an ambulance, all as models, do not create Napoleonic or militaristic ideas.

See Paragraph V of Karsten Letter.

Paragraph V. This is almost too weak to receive an answer. The men in camp lived a simple life, nothing like as undemo-

cratic or demoralizing as college life sometimes is; their ideals and ideas were especially fixed upon how to have the ration properly prepared and cooked, the footwear suitable for marching, how to select a proper camp ground, how to protect themselves from inclement weather, how to conceal themselves from the enemy, how to govern men with kindness and firmness and to learn that discipline was not related to tyranny or martinetism. National affairs and foreigners were not mentioned.

See Paragraph VII of Karsten Letter.

Paragraph VII. Politics, international relations, and militarism were not a part of the curriculum. Cleanliness, temperance, orderliness, discipline, respect, and obedience to those in authority, daily work and lectures upon such military subjects as a young officer should know (and would certainly be valuable instruction for the officers and executive committee of the League), and early hours constituted the routine of these camps.

See Paragraph VII of Karsten Letter.

From my observation, I concluded that the "world vision" of these young college men was not dwarfed in the least; on the contrary, I think that every one whom I saw and conversed with, was benefited physically and mentally and decidedly broadened in his views of the world and of men. I do not think their "humanity" was especially affected one way or the other, but I think nearly every one of them will admit that no four or six weeks of their life was of more real educational value, and every one of them could answer every one of the questions I asked in the *affirmative*, and I know every good American citizen would approve such answers.

I cannot believe that the officers and executive committee of the League fairly represent the sentiments or teachings of the seven great institutions named, Columbia, Harvard, Princeton, Yale, New York, Barnard, Cornell, but if they do, then these colleges are a denationalizing influence, inimical to the welfare of our country.

C. A. Woodruff,
Brigadier-General, U. S. Army, Retired.

July 28, 1915. Presidio of San Francisco, California.

Varied Ground.

Summer's Work of a Battalion of Regular Infantry.

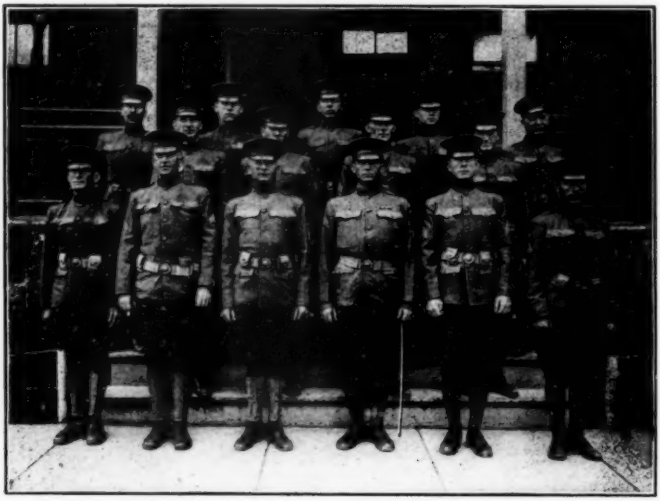
The 3d Battalion, 30th U. S. Infantry, Maj. H. H. Bandholtz commanding, finished its annual target practice at Plattsburg Barracks, N. Y., on June 25. Late on the afternoon of June 29, the post commander received telegraphic orders to send this battalion to participate in the Militia Camp of Instruction at Fishkill Plains, N. Y., and to arrive there not later than July 15.

The battalion left Plattsburg Barracks at 6.00 a. m. July 1, marched sixty miles in the first three days, and arrived at Fishkill Plains at 10.00 a. m., July 14, with all men and animals in good condition. The last day's march was only thirteen miles; the total distance covered was 260 miles, the regular automobile distance of 275 miles having been shortened by occasional cuts over country roads. Concerning this march, General Wood wrote the battalion commander, through military channels: "It is noted that you made an average daily march of eighteen miles and a half, which, with troops leaving garrison and without previous preparation of any kind for such march, is most gratifying, since it indicates that the command must have been kept in very good condition for immediate field service. I take pleasure in expressing to you my appreciation of the results accomplished by you on this march."

The battalion was encamped at Fishkill Plains with the 1st and 2d Brigades, N. G. N. Y., in succession and took part in all of their maneuvers, which lasted until August 1. On that date, the return march was begun on an itinerary which contemplated frequent delays at the larger cities for the purpose of giving exhibition military exercises. Two days were thus occupied at Rhinebeck and Albany, when it was suggested that the command reach Plattsburg at the earliest practicable date in order to participate in the maneuvers to be held in connection with the organization of the First Training ("Business Men's") Regiment. Rations had already been shipped pursuant to the original itinerary, and this caused some delay, but the battalion marched into Platts-

burg Barracks on August 17 with all men and animals in good condition, having covered thirty-four miles on the last day in twelve and one-half hours. The total return distance, owing to a slight change in route, was 268 miles.

Since the return to Plattsburg, the battalion has taken part in all of the general maneuvers in connection with the "Business Men's Camps of Instruction," and, in the problem on September 3, made a forced uphill short march, winning a competition with



NONCOMMISSIONED OFFICERS, 3D BATTALION, 30TH INFANTRY, AVERAGE LENGTH OF SERVICE, 12 YEARS, 10 MONTHS.

the cavalry for the possession of Big Hill, the key to the general situation that day. The battalion with full packs climbed over four and one-half miles in one hour and five minutes, causing the cavalry commander with generous and frank enthusiasm at the critique to insist that the Field Service Regulations be amended as regards the marching capacity of trained infantry.

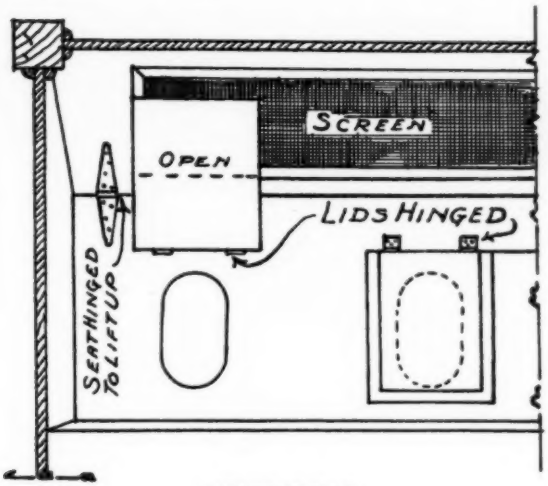
During the summer, there has been practically no rest on Sundays and holidays, and, including maneuvers, the battalion will have marched over 750 miles.

A Field Latrine.

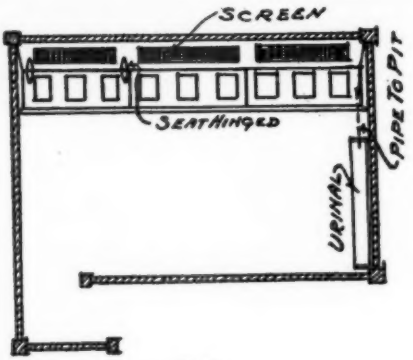
A field latrine which was evolved and used by Company D, 6th Infantry, in El Paso, Texas, in 1914, had some unusual features which proved of considerable value. The camp was near a fly-breeding Mexican section of the city, and from April until October, the weather was very hot. Nothing was furnished the company but a common tent, which was used for the roof.

A pit 7 feet long, 3 feet wide, and 11 feet deep was dug. Around the pit, enough dirt was removed to leave a shelf about four inches wide and four inches below the surface for the box to rest upon, the excavated dirt being banked around the box afterwards. This made a fly-proof joint which would not cave in. It had been found that in ground such as the river silt which constitutes the soil in that locality, openings around the bottom of the box were likely to occur. The shelf arrangement, combined with wetting the ground with the hose daily, prevented this.

The box was constructed with a sloping back to prevent fouling. A section of the back about three feet long and one foot wide was taken out and the opening screened for the double purpose of



DETAILS OF SEAT.
Scale ¾ inch = 1 foot.

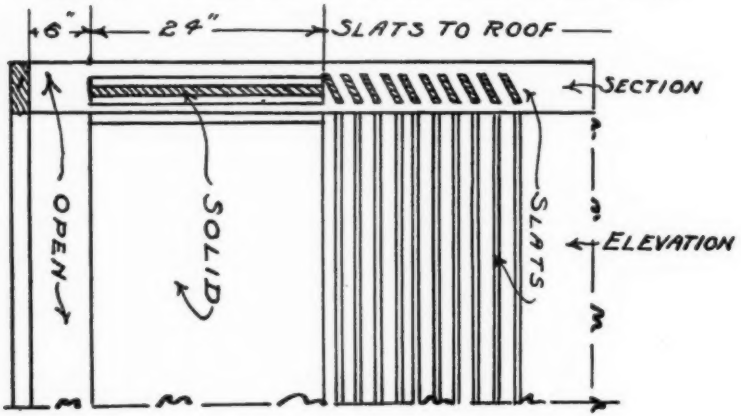


PLAN.
Scale 1 inch = 8 feet.

excluding flies and allowing the continuous but gradual escape of gas from the pit, thus avoiding the almost overpowering gust which usually arises at the lifting of the seat-lid on the old-style box.

The top of the box was hinged so that the pit could be burned out daily with straw and crude oil without moving the box from position.

The walls of the building were constructed with a view to comfort. A six-inch belt was left open at the bottom for ven-



tilation and cleanliness. Then came two feet of solid boarding. From that point to the top were slats (1" x 6" boards), inclined sufficiently to conceal the occupants and exclude driving rain, but not so much as to prevent free passage of air and light. The walls were about seven feet high. This unusual height assured coolness to men standing, which is a pleasure seldom enjoyed under canvas in a hot climate.

No part of the building was buried in the ground as its location had to be changed from time to time when a new pit became necessary.

The urinal shown in the drawing has been added as a suggestion. A can with cover, furnished by the Quartermaster, was in use and burned out daily with crude oil.

W. D.

"The American Navy."

My attention has been called to a review of my little book, "The American Navy," by "D. E. N." in your September-October issue, 1915, pp. 336–338, in which he takes exception to my views *re* attacking Havana by the fleet immediately after the declaration of war.

I think it would have been well had the writer of the review read my remarks on this subject in my "Relations of the United States and Spain" with sub-title "The Spanish-American War," Vol. I, pp. 71–88. The question is there fully discussed, the batteries and their armament given in detail, and a map given, which shows the extreme train of guns, as established by our army engineers immediately after our occupancy of the city. Of course, the batteries were in no such state of preparation on April 23, 1898, as at the end of the war.

But even so, allowing them their full strength, they could at any time have been assaulted and silenced in detail by beginning at the southwest. The only return that could have been made (the fleet attacking the batteries seriatim from the southwest), was from two 5.9-inch guns in battery No. 5. (I would mention that there seems from the map to be an error in the train of the four guns in battery No. 4, viz: that it should be W. S. W. ¼ W. instead of W. N. W. ¼ W. as given in the description of the batteries. This, however, is not material, as the battery was still attackable without being able to return.) The guns of the heavy batteries east of the Morro were wholly avoidable by

hugging the shore, which can be approached by heavy ships within 150 yards. Meantime, these batteries (east of the Morro) could have been enfiladed from the distance of three miles (an easy range for our eight-inch guns), without return except from howitzers. Thus at any time, Havana and its batteries were absolutely at our mercy from the southwest.

With the batteries reduced and the ships anchored in the bight west of the Morro, Sampson would only have had to lie quietly at anchor and await, if necessary, the coming of a land force to take over the city. There was no place for the Spanish garrison to go. The country about Havana had been desolated. Food, there was none. Withdrawal was thus impossible.

I lay down, in the history referred to, the three possible courses of action after the reduction of the batteries: (1) the Spanish general might have surrendered the place and the army on the understanding that he himself would preserve order, pending the arrival of an American force; (2) he might, surrendering the city, have attempted to withdraw his troops (practically impossible for the reason above stated); (3) the fleet could have held its position west of the Morro with threat of bombardment, if fired upon, awaited the despatch of an expeditionary army, and then have demanded surrender.

To quote the Dardanelles is to quote the absolutely unlike. It can have no bearing in such a situation. The one was a direct attack upon very powerful and well served batteries; the other was an easy taking in flank batteries most of the guns of which had never been fired, and the men thus entirely without practice.

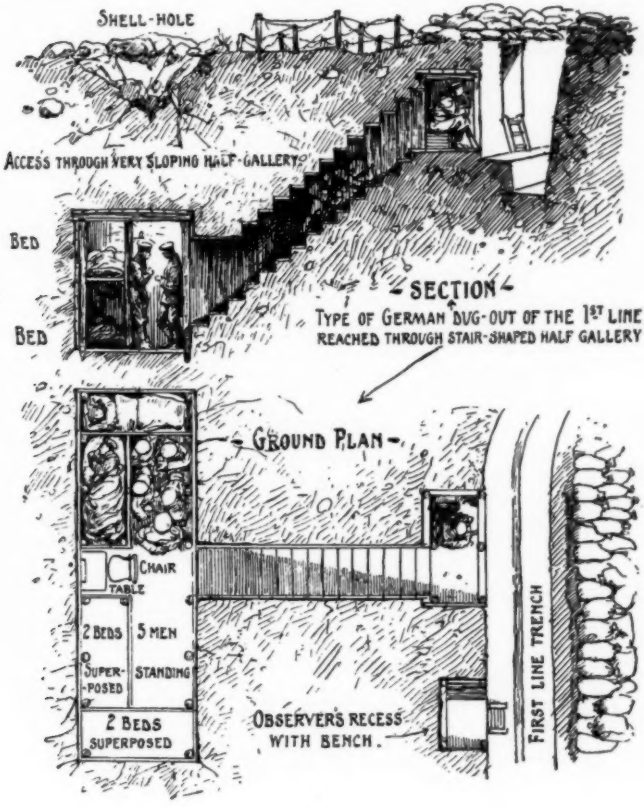
In all these questions, one great and commanding element is the character of one's adversary. I am thus sure not only that would Sampson have carried out his proposed attack with perfect success but that the Spaniards would have accepted the situation, mentioned as (1), with perfect equanimity. Much may be expected of an enemy with whom one can arrange an attack in which "it is intended that these results shall be accomplished without the loss of life" (see General Merritt's memorandum for general officers regarding "the possible action Saturday, August 13" at Manila).

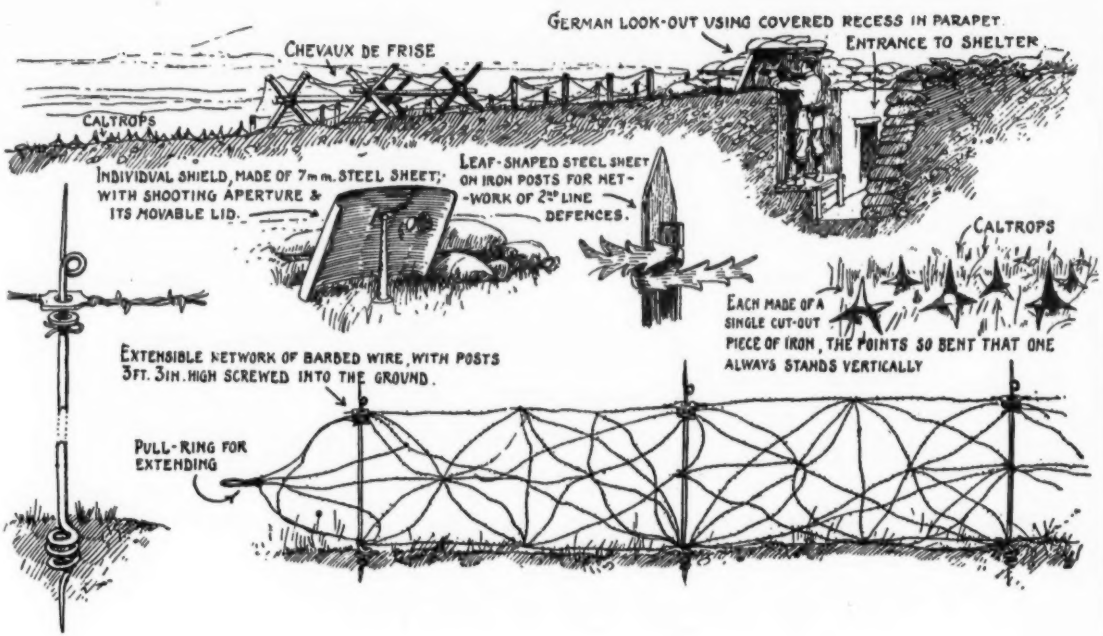
I must apologize for the length of this paper, but I feel it necessary to make clear a very peculiar and perhaps little understood situation.

F. E. Chadwick.

German Trench Defenses.

These drawings show two types of German underground shelters, one reached by a flight of steps, the other (and less common) kind by a ladder down a vertical shaft. These dug-outs are as much as 25 to 30 feet beneath the surface. Not less striking are the various accessory defenses outside the trench parapet. These obstacles include *chevaux-de-frise,* furnished with barbed wire or sheets of iron cut into a kind of leaf-shaped pattern resembling the edges of a giant saw. Wire-cutters are practically useless against this. Then there are the caltrops—four-sided




GERMAN LOOK-OUT USING COVERED RECESS IN PARAPET.
ENTRANCE TO SHELTER.
CHEVAUX DE FRISE
CALTROPS
INDIVIDUAL SHIELD, MADE OF 7m m. STEEL SHEET, WITH SHOOTING APERTURE & ITS MOVABLE LID.
LEAF-SHAPED STEEL SHEET ON IRON POSTS FOR NET-WORK OF 2nd LINE DEFENCES.
CALTROPS
EACH MADE OF A SINGLE CUT-OUT PIECE OF IRON, THE POINTS SO BENT THAT ONE ALWAYS STANDS VERTICALLY
EXTENSIBLE NETWORK OF BARBED WIRE, WITH POSTS 3FT. 3IN. HIGH SCREWED INTO THE GROUND.
PULL-RING FOR EXTENDING

sheets of iron, with points so bent that, whichever way they fall when thrown on the ground, one point sticks up vertically. The Germans also use extensible barbed wire and steel shields for individual soldiers, with a loop-hole for rifle fire, which has a movable lid. When no action is going on, the Germans leave only look-out men in the trench.—*The Illustrated London News.*

Comments on "The Battle Sight."*

Captain Lewis's article, "The Battle Sight," shows that a man can make more hits when his sight is set at the exact range than he can when it isn't.

In the various articles I have read on the question of sights, it seems to me that altogether too much attention is paid to target-range conditions and very little to battle conditions.

I am of the opinion that fire direction and fire control are much more important than individual skill.

At unknown ranges of 600 yards and under, we need a sight that will give the greatest danger space, and I believe the present battle sight pretty nearly meets this requirement.

Of course, if the exact range is known and the target can be seen, the sight set at the correct elevation is the best, but these ideal conditions are certainly not likely to be present in battle.

We should have a fixed sight that can be quickly and easily adjusted and that can be read by the leaders in rear of the line, and a battle sight for all ranges of 600 yards and under. It might be better to have the battle sight a little lower than at present, say for direct fire at 300 yards.

H. P. Hobbs,
Captain, Infantry.

A just appreciation of the figures given in Captain Lewis's article requires a general understanding of the basic principles upon which such tests should rest and an understanding of what deductions may properly be made from results attained in the firings conducted by Captain Lewis.

This involves an agreement upon the proper functions and uses of the two sights under consideration and a close scrutiny

*The following comments bear on an article by Capt. G. C. Lewis, 13th Infantry, on pages 364–373 of this issue.

of each proposed test to insure that the results attained shall be of value in proving a theoretical proposition or disproving some fallacious theory advanced in support of one or the other side of the controversy.

The maximum number of hits will be made by any given class of marksmen when the center of impact of its shot group is in the center of gravity of the figure used as a target. The placing of this center of impact in the most valuable point is largely, if not entirely, a matter of the correct estimation of the sight setting, which is, of course, closely related to the determination, mechanical or otherwise, of the range. The relative importance of the correct placing of the center of impact differs with the range and with the skill of the marksmen. It is greater with good than with poor marksmen, and is greater at long than at short ranges.

With good marksmen, the cone of dispersion is small and may be carried entirely off the target by an incorrectly placed center of impact, or carried so far from the center of gravity of the target that only a few hits will result. With poor marksmen, the cone of dispersion is large, and though the center of impact may be off of the target or quite removed from the center of gravity of the target, many hits will be made by the outer portions of the large cone.

At the longer ranges, the trajectory is decidedly curved, and the danger space is correspondingly short. A very slight error will make a large difference in the location of the center of impact. At the shorter ranges, the curve of the trajectory is flatter, and the influence of an error in the elevation of the piece (sight setting) is less important because, the angle of fall being less, its tangent is less and the displacement due to a small change or error in the angle will be proportionate to the smallness of the tangent of the angle of fall. At the short ranges, the trajectory is so flat that the angle of fall is so reduced that errors in the sighting which would be fatally large at the longer ranges, exert a negligible influence on the location of the center of impact of the group.

Two conditions, then, are at work at the short ranges when the firing is executed by poor marksmen, both of which tend to reduce the importance of correct placing of the center of impact. These are:

1. The flatness of the trajectory;
2. The large dispersion of poor marksmen.

The correct estimation of the appropriate sight setting, always difficult, is especially so when the mind is excited by danger or by unusual conditions of a moral or nervous character. The correct setting of an ordered sight may be taught in time of peace, and if properly instilled in the soldier, his expertness in this particular will be retained under a very considerable mental stress. History, however, shows that the best trained troops will at times lose control of themselves to such an extent that they cannot be relied upon to perform ordinary acts with anything like the skill which they normally display.

The armies of the United States will always contain vast numbers of men and officers who cannot be relied upon to attain expertness either in estimating distances or in setting sights quickly and accurately to an ordered setting. Such men will lose what expertness they may have acquired as soon as the strain of battle has reached a point where their undisciplined minds and bodies refuse to function normally, and this condition will be reached earlier with them than with trained troops.

A universal sight would abolish the necessity for estimating ranges and setting sights, which would be a distinct advantage to such troops as will form our armies.

We have seen that, at the short ranges, the influence of a misplaced center of impact is negligible with poor marksmen, and poor marksmen are what we shall have to deal with in war after ranges have become short. The desired universal sight would thus seem practicable and desirable for use under the conditions cited. Under other conditions such as the delivery of a slow and accurate fire by cool and trained marksmen, whether the range be short or long, so long as it is "known" with reasonable accuracy, the use of a universal sight would be an evidence of incapacity on the part of the leaders which would be inexcusable.

It would be as illogical to abandon the so-called battle sight as it would be to omit all graduations on the leaf or tangent sight for ranges less than the battle-sight setting (as has been done on some rifles). Both sights have their proper place and use. The drawbacks to the exclusive adoption of one or the other are that men and officers would be compelled to use the tangent sight when the battle sight should be used, or to use the battle sight

at all targets within its scope, regardless of the appropriateness of its use in any particular case.

The conditions which call for the use of one or the other of the two sights may be generally stated as shown in the following summary, which is given as a general guide and not as a complete statement of the conditions which will fit every and all the concrete cases arising in service.

THE TANGENT SIGHT.

Individual use.

When a single target is perceived at a range which promises results commensurate with the expenditure of ammunition, under conditions which permit the estimation or a definite knowledge of the range, the taking of the eye off the target, the delayed opening of fire, and the delivery, when opened, of a slow and accurately aimed fire. Such conditions will at times occur when on sentry duty or with patrols but not often.

Individual fire may be indicated in battle to determine a range by the observation of the strike of bullets, and this at relatively long ranges.

Collective use.

When in battle, the men are under a light or ineffective fire or are not under fire at all. Such conditions will occur in various situations of a *rencontre* nature prior to the battle, and in a battle they often occur at long and at effective ranges. Conditions may even make it possible to set sights accurately at close ranges (under 600 yards) in battle, but such conditions must be regarded as abnormal in the attack. In the defense, they may be possible, especially in trench warfare.

THE BATTLE SIGHT.

Individual use.

Against suddenly presented targets, such as occur on patrol and sentry duty where the opportunity to fire is fleeting and where the eye cannot be taken off the target for fear of losing the target. Under conditions, where the volume of fire possible with the battle sight promises enough hits to warrant opening fire. Where in an emergency, fire is opened in self defense at short ranges and at relatively large targets.

Collective use.

In battle when the hostile fire is such that fire direction and control has been lost to the extent which forbids correct estimation of distances and true sight settings or where the men are so excited, nervous, or timid that they are producing dispersions too large to justify the loss of time and the danger of incorrectly

set sights. In night firing. Against charging cavalry at any range less than 1,000 yards where the shifting target absolutely forbids continual changes of sight setting to meet the rapidly advancing troopers. When in *rencontre* where the time element is the governing factor, the number of shots fired with the battle sight would make more hits even with its incorrect elevation than could be expected with correctly set sights based on average incorrect estimates of the range.

With this understanding of the proper uses of the battle and the tangent sights, it must be obvious that no test firing can be regarded as conclusive or even as contributory which is conducted with the battle sight under conditions appropriate for the leaf sight or with the leaf sight under conditions appropriate for the battle sight, unless the purpose of the test is to demonstrate the truth of the above basic statement of the proper uses of the two sights.

In the firings conducted by Captain Lewis, this principle was not always kept in view. In his first table, we have the presumably large dispersions due to poor shooting both with the leaf and the battle sight. We find that an effort was made, however, to keep the dispersions within the minimum dimensions possible with such marksmen by allowing a rate of fire which was quite inappropriate either to the range or the battle sight. And we find, as we should expect to find, that the leaf sight *under these conditions* gave a greater percentage of hits than the battle sight. In his second table, where these same men fired on the "D" target and the rate of fire was more nearly that which is prescribed for the ranges used (see par. 209, S. A. F. M.), the number of figures hit (15) was the same with each sight, and there was little difference between the two sights in the number of hits made in the unit of time allowed for the firing —four more hits out of 400 shots.

Remembering that a good aiming point tends to small dispersions and that a poor aiming point tends to large dispersions and that even with the good aiming point used in the second table, the results were equal when the rate of fire was increased to nearly a normal rate, it should be evident that had the rate of fire been normal against the poor target, the results would have been either equal for the two sights or in favor of the battle sight. That the tangent sight produced more hits than the

battle sight, is due not so much to a difference in the sights as to the use of an improper rate of fire adopted for the test.

The same phenomena noted with reference to Tables I and II are observable with the third and fourth tables. These firings were with what must be classed as "good shots." The dispersions were therefore small, and unless some of the conditions enumerated above under "uses of the battle sight" were present to make the dispersions larger than would be normal with these men, the battle sight should not have been used at all. The table proves the correctness of the proposition that good marksmen delivering a slow, accurate fire should always use a tangent sight.

The rate of fire in the third table was low, as it was in the first table, and with the same results. The small dispersion of the good marksmen permitted a higher percentage and a higher number of hits to be made than was possible with the battle sight when firing under conditions for which the battle sight was not designed. As in the case of the second table, the fourth table shows that where the men fired with anything like the proper rate, the battle sight resulted in more hits than the leaf sight, as might be expected, notwithstanding the fact that the rate used to produce the superiority was 42 per cent at 200 yards and 16 per cent at 300 yards, less than that prescribed in paragraph 209, S. A. F. M.

In all of these firings, it should also be noted that the men estimated the ranges with a precision which is unusual.

It should be remembered that the battle sight is not a target-range sight but purely and simply a combat or battlefield expedient. Its use on the target range is simply to insure that the soldier will become accustomed to its use and know what it is.

From the point of view of target practice, conducted solely for the purpose of individual accuracy in shooting and where the trajectory or sheaf of the one rifle only is considered, it has no place.

It is this mistaking the functions of a battle sight, taken in combination with the system of aiming, that has caused so much complaint of the battle sight in the service.

The reference in Captain Lewis's article to the "raw farmers" at New Orleans, the "backwoodsmen" at the Alamo, and the "hunters" at the Tugela would be rather convincing, if the historian could show that these varied classes of shots used a tangent sight, adjusting the setting as the enemy's mass pushed on. But

is it not more reasonable to suppose that at Chalmette, San Antonio, and in the Transvaal, the enemy's mass or close formations, appearing at the close ranges, gave his opponent opportunity for inflicting great loss and that these fighters (whose instincts had been whetted by the fight with nature for existence) used but one sight setting on the occasions mentioned, adjusting their aim—in the language of the backwoods hunter—by "jus' drawin' down on him?"

Since Captain Lewis's tests were, confessedly, incomplete, his deductions therefrom are subject to the allowances which should always be made for deductions based on incomplete data.

The whole subject of battle sights is now before the School of Musketry, and it is to be presumed that their tests will be complete enough to settle this vexed question.

S. F.

The first paragraph of Captain Lewis's article indicates in unmistakable language the factors that should govern in the settlement of this much mooted question. It is believed that it cannot be considered as a question already settled by the mere fact that the use of the battle sight is prescribed in the Small Arms Firing Manual for practice at the ranges which are commonly regarded as critical; because, as is well known, many officers who have given this subject careful study and such experiment as facilities would permit, have already subscribed to many, if not all, of Captain Lewis's views in their official reports and recommendations.

The preliminary argument in this article referring to certain psychological factors is not to be passed over lightly. The first impulse of a man with a firearm in his hands in time of excitement and danger is undoubtedly to point it at the target he intends to hit—not to point it at some auxiliary aiming point. No matter how scared, how untrained, or how imperfect his aim—that will be his impulse. The question naturally arises, Why should not his training for the firings which are to take place at the ranges when there are to be these conditions of excitement and danger be such as to develop this natural impulse? This, however, is covered in detail in the argument which follows and which sets forth the premises on which the battle

sight was adopted, with the statement of facts and theories in opposition thereto.

It must be admitted that in support of his argument the writer submits some figures, the result of experiment, which tend strongly to disprove the efficiency of the battle sight as compared with the fixed sight. These experiments cannot be considered as sufficiently extended and thorough to settle the controversy without further investigation. The writer has, however, gone further in this direction than have any of the battle-sight adherents; at least, so far as we have any published record. It must be remembered in conducting experiments of this kind we can never reproduce exactly battle-field conditions, nor can we approach them even by a considerable degree. Yet it is believed that they can be so conducted as to prove or disprove certain facts which have a direct bearing on a decision. It would appear from the record that these experiments were conducted so that although the firing conditions were practically identical for the different sights, the men firing were different. An additional refinement might be introduced by having the same men fire with the different sights, taking all the precautions to have the firing conditions the same, thus insuring the sights as the only variable. This factor would be small, however, and not sufficient to effect a change to the other side in the final result as shown by the figures.

There is of course nothing in the Firing Regulations which prohibits an organization commander from giving instruction in the use of the fixed sights at the closer ranges and utilizing them in field-firing exercises. The writer, however, appears to believe that the fact that the battle sight is prescribed at certain ranges in the prescribed practice and its use generally taught in the regulations, tends against the general use of fixed sights in combat firing at the critical ranges, and such is undoubtedly true.

One of the conclusions (*i*) that men can be taught with a reasonable amount of training to set sights in ten seconds, is undoubtedly true. Yet men with the same amout of training can fire from two to four aimed shots in that time; and these extra shots in the earlier stages of a fire fight may have considerable to do with attaining fire superiority; providing of course they hit something.

Conclusion (*k*) admits that there may be a use for the battle sight; and considered in connection with (*h*) is there not in this whole discussion some material for an argument in favor of a 200 or 300 yard battle sight?

The writer is very correct in his contention that what we want and need on this question are not theories and arguments but facts; and certain facts can be determined by an extension of the methods already indicated by him. With our School of Musketry at Fort Sill, organized for exactly such work and experiments as are needed in this matter, it would seem that an early solution and one more satisfactory to our service might and probably will be obtained. G. S. S.

Captain Lewis in his article on "The Battle Sight" introduces many interesting and new arguments into a discussion which has proceeded with unabated vigor since this form of sight was first adopted.

I suppose it is admitted the sight designed for the Army rifle is a compromise between the many requirements of a perfect sighting device as used on sporting rifles for fixed targets and one suitable for snap shooting at disappearing objects. The rough usage to which the Army rifle must of necessity be subjected, is also an important consideration, as well as the requirement of adaptability to marksmen of varied degrees of skill.

The particular variety of sight more useful for the many forms of target which would confront a soldier in active service, would appear to conform to that which has been found from long experience most suitable for big game. The whole art of practical rifle shooting at quick targets consists in the marksman's ability to take instantaneous aim and to discharge the weapon before he loses that aim.

Now it does not appear possible that a graduated sight leaf could ever be used for that class of firing, though it must be confessed the normal target in war would be such that with moderate and reasonable training in sight setting, the men would set their sights for it as long as they would aim any sort of sight. It also seems reasonable that many opportunities for quick firing at disappearing targets would fall to the soldier, and also that in close action of battle lines, from 600 yards in, better results would be accomplished by using a sight which required no mechanical adjustment for different ranges.

The battle sight should not be dispensed with, but it should be changed in form to enable the marksman to aim directly at the objective which he desires to hit and to stand a reasonable chance of striking such objective within critical ranges. Confidence in his weapon adds immensely to the value of the soldier and undoubtedly improves his hitting ability. A good shot, that is, the expert rifleman or sharpshooter, has no doubt of his ability to hit any reasonable target from 200 to 600 yards when using the rear-sight adjustment with which the Army rifle is now provided; but give the same man the same targets and require the use of the battle sight, and the feeling of absolute confidence is gone. He knows that an element of chance has been introduced and that now he cannot be sure of just where his shots will go. He does know they are not going to land on the spot at which he is looking.

Now it is not impossible to design a practical battle sight; imagine a rear sight with a wide, deep "V" so that the front sight can be instantly centered in it, the bar in which the "V" is cut thick enough to make it substantial, edges beveled to the face farthest from the eye and so adjusted that an objective at 200 yards would be struck when using the fine sight by aiming directly at the point to be hit, and an objective at 400 yards would be struck when using a half sight, and one at 600 when using a full sight; in all cases, the aim to be taken directly at the object to be hit.

It is unreasonable to suppose that in a condition of mental or nervous excitement men will aim other than directly at the object they wish to hit, and the battle sight should be so designed as to take advantage of this fact. It would be easier to teach a recruit to adjust his *front* sight to different ranges, aiming in all cases at the object he wished to hit, than to have him try to remember how much to the right or left or below his target he must aim to make a hit. A fine sight would naturally be taken on a near and correspondingly distinct object, a full sight on a distant and indistinct one; in all cases the effect would be to lower the trajectory rather than raise it above the target.

The best front sight is a white bead-sight. For some reason, all military rifles have black front sights, which show up indistinctly against any but a white target. The rear sight should be black, of course, and the face of the bar carrying the rear-sight

notch should incline slightly toward the eye to throw it in shadow and make it dead black.

The battle sight should not be scrapped yet; it should be improved and corrected to fill the useful office which will always be open to it under certain conditions of active service.

X. Y. Z.

The article entitled "The Battle Sight" does not demonstrate conclusively that the battle sight should be abolished. All the deductions made are accepted as correct; but the conditions of the series of the firing problems described, or rather the psychical and physical conditions of the firers during the series, were not the same as that of the soldier in the danger zone on the battle field, and we therefore have no fair comparison of the battle sight and the fixed sight. Moreover, why abolish the battle sight? It is a simple little notch in the rear sight, which does not get in the way, which has no weight, and which does not get out of order. Furthermore, there is nothing whatever in our Firing Regulations which makes the use of the battle sight obligatory, except paragraphs 71, 73, 77, 204, and 205. In all cases not included in these paragraphs, the battle sight may or may not be used, depending entirely upon the decision of the fire-unit commander or of the company commander, and the decision in every case will be governed by one principle, Which sight will give the best results?

One might infer from the article that its writer held the opinion that the physiological condition of the firer is about the same in all kinds and classes of fire, target firing and battle firing. This opinion is contrary to the theory of all our great writers and authorities on fire, authorities like Rohne, Mayne, Maude, and Balck. Their theory is that when the soldier enters the danger zone on the battle field, a great psycho-physical change takes place in him. He is no longer the same being who was instructed on the target range or in the field-firing exercises. Now danger is upon him, and fear fills his soul. He no longer aims with the same precision, nor does he pull the trigger with the same care, nor does he observe the shot strike with the same attention. It is this theory which developed the battle sight, and it is supported by the fact that in most of the great battles of the

past not more than one in one thousand bullets fired found the mark.

In this connection, it might be of interest to quote the argument of the German School of Musketry as stated in "Rifles and Ammunition," by H. Ommudsen and E. H. Robinson:

The German "expert" says in effect that service conditions make accurate shooting impossible; also that in any case the soldier is not likely to aim at all; but if he does, he will aim wrongly. With this as the basis, he proceeds to work out his argument as follows: if the rifle be accurate, the soldier aiming wrongly will always miss his mark; his only chance of hitting will therefore depend on some inaccuracy in the rifle or ammunition; therefore it is necessary to give the soldier a rifle which is not too accurate, and errors which will develop errors big enough to correct the soldier's bad aim.

Deduction (*i*) in the article on the battle sight is concurred in. Our instruction in the use of the battle sight is not good, for in our method of instruction, the firer has a fixed aiming point which he would not have in battle firing.

In conclusion, battle sights are found on all modern military rifles. As far as can be determined from the writings on the subject and from the rifles in the museum at West Point, the foreign battle sights are as follows:

England.....	200 yards	Germany.....	400 metres
France.....	400 metres	Sweden.....	300 metres
Japan.....	400 metres		

Possibly the range of our own battle sight is too long. Most of the officers in the 1912 class at the School of Musketry held the opinion that our battle sight should be 300 yards.

PATRICK J. MORRISSEY,
1st Lieut., Infantry.

I have read the article on "Battle Sight" by Captain Lewis, and although I have some very decided views on value and use of the battle sight, I hesitate to appear in print in support or criticism of his article, especially as I have not on hand the actual firing data to support by arguments.

However, I offer the following for your information. In the main, I agree with the conclusions drawn by Captain Lewis as a result of his extensive experiments. The following points were noted in connection with the article.

It would seem that the writer assumes that our regulations discourage the use of the fixed sight at the short ranges. Such may be the case, but I am aware of no regulation which *requires* the battle sight to be used at these ranges. On the contrary, in numerous firing exercises, I have seen the fixed sight used at the close ranges, the leader using the one which, in his judgment, offered best advantages under conditions of the problem. The time element was always the deciding factor.

In making experiments for comparison of relative efficiency of sights, I believe that the same man or group of men should fire the problem with the battle sight and then repeat with the fixed sight. The only variable then in the problem would be the sight, and the resulting discrepancy could without hesitation be laid to that variable. I gather from the enclosed article that a different man or group of men fired in each case.

The writer suggests a "ten-second time limit" for fixing of sights. Record firing has demonstrated that a well-trained rifleman can fire from three to five well-aimed shots in that time. Ten seconds in many cases would allow the target to disappear. Right here, in my opinion, lies the pith of this whole subject, and I believe that the use of the battle sight is justifiable only when surprised or where the short period of time during which the target will be exposed makes it imperative to put the rifles into action without delay.

There is no doubt in my mind that the efficacy of the battle sight cannot be judged by the results obtained in class "A" firing. It is one thing to use it against "D" targets on frames and another against "F" targets in field firing. In competitions, I have repeatedly heard men complain because the bottom of target assigned to them was four or more inches farther above the bank than the ones upon which they had been accustomed to firing, thus clearly showing that they were using a particular spot in the bank as an aiming point and were not laying off the proper ordinate each time from the bottom of the silhouette. Now in class "B" firing when this aiming point is absent and the ordinate must be measured along a horizontal instead of a vertical plane, the rifleman is entirely at sea.

My views on the battle sight can be summed up as follows:

1. That it is a good thing, if used at the proper time, and should be retained.

2. That the range of the sight should be reduced to 350 yards.

This will give a highest ordinate of approximately ten inches, which the recent wars have shown to be the height of the most common target offered at the close ranges.

3. That its use is justifiable only in cases where the time element is an important factor. This will limit it principally to the offensive and to cases where the target is a sudden or fleeting one. B. A. D.

The general question of battle sights has certain features which it would be well to consider more carefully than is done in "The Battle Sight" before subscribing to the rather radical recommendation that the battle sight be abolished.

The battle sight is a device that has been developed to take advantage of the flat trajectory of the modern rifle, with the idea of accomplishing two objects: (1) to eliminate the necessity of sight setting; (2) to obviate the need of estimating ranges. It will be noted that the discussion of the battle sight under consideration completely omits any reference to range estimation, and no mention is made of the advantages gained for the battle sight by eliminating this feature or to the disadvantages that accrue to the leaf sight by reason of the normal error of estimation. It should be observed in this connection that the average error in estimating ranges has been determined by hundreds of thousands of experiments to be about 12½ per cent. At some battle ranges, an error of this magnitude, coupled with the normal error of the leaf sight, will give a total error greater than that caused by the trajectory of the battle sight. In addition, it must not be forgotten that even if the distance to the target can be correctly estimated, such distance is not always the proper elevation to use. This is recognized on some foreign ranges by announcing each day, as a result of experimental firing, the correct elevation or true range for the day. Results obtained are then analyzed in the critique with this range as a basis for computing probabilities.

To omit a study of the effects of such an important factor as range estimation and its attending features naturally detracts from the conclusions offered, particularly as this factor operates entirely against the leaf sight.

Throughout the entire discussion, the collective effect of the battle sight has been ignored; to arrive at results of lasting value, this feature must be considered. One infers from "The Battle

Sight" that to make hits with the battle sight in actual conflict, it is necessary to aim below the target. Such is not the case. As a matter of fact, it is plain from a study of collective dispersions that when firing collectively at an "F" target with a leaf sight that shoots fifty yards low and a battle sight corresponding to 436 yards, if aim be taken at the bottom of the target, the latter will make more direct hits than the former at any range under 300 yards.

The condemnation of the battle sight in this article is based upon the presentation of certain arguments against the sight and statistics obtained by experimental firing. It will be noticed that this discussion and these firings relate wholly to the *present battle sight,* while the deductions drawn therefrom condemn the *battle sight in general.* It is impossible to agree with such radical deductions, for it is entirely practicable to provide fixed sights which eliminate both sight setting and range estimation and still produce an effect as great as can be expected from a leaf sight.* Particularly is this true when the leaf sight is set in the excitement of battle, and set, too, at a range which must be estimated under these adverse conditions.

A study of the firings included in this article appears to indicate at least in part that some influence other than the trajectory of the rifle affected the results obtained. Consider experiments 31 and 32. The actual range was 400 yards. Results of experiments have been announced by the War Department as giving the battle sight an average range of 436 yards; then in this particular firing the battle sight was in error thirty-six yards. The normal range of the leaf sight is fifty yards short, as announced by the War Department; the estimated range for this firing was also fifty yards short, thus giving a total error of 100 yards, while the error of the battle sight was only thirty-six yards. *Yet the battle sight obtained only 22 hits, while the leaf sight made 38.* Much the same conditions exist in experiments 29, 30, 33, and 34, also 11 and 12.

Consideration must also be given to the fact that the greater the range, the greater is the effect of an error in estimation and the more serious does the liability to such error become. The results in the tables upon which the battle sight is condemned, are mostly at ranges under 400 yards; this precludes a proper study of the average effects of the two sights from the limits of the

*See table on page 458.

battle range to the point of assault. Consequently, in this particular the experiments omit a factor which is important and which favors the battle sight.

It may also be remarked that the choice of points at which this firing was done fell on ranges easily set off on the leaf sight; moreover, the chosen points are even quarters and halves of hundreds of yards, and distances such as these are usually announced as results of estimates. Distances like 385, 215, or 333 yards would, it is thought, more nearly have approached battle conditions. Had points similar to the latter ranges been selected, undoubtedly both sight setting and range estimation would have been influenced. As with the battle sight both can be ignored, it is plain that only the results obtained with a leaf sight would have been affected, and the chances are that the effect would have been an adverse one.

In conclusion, it is believed that the series of experiments and arguments given are not conclusive, as they fail to cover all the important phases of the subject and omit from consideration some of the elemental factors which would favor the battle sight. Furthermore, were both arguments and tables reliable and conclusive, they would only apply to the present sight and not to a battle sight in general.*

G. Soulard Taylor,
Capt., Signal Corps.

Results obtained by two average companies of about fifty men each firing at prone silhouette targets 16 inches high.

First Experiment.

True range.	Announced range.	Error in range %	Shots fired.	Visibility.	Sight used. Ord. aper. Hits.	Sight used. Leaf. Hits.
800	700[1]	12.5	200	Targets quite visible at	5	6
700	790[1]	12.9	200	longer ranges, but chang-	7	2
600	525[1]	12.5	200	ing light reduced their	8	9
500	565[1]	13.0	200	visibility as range was re-	12	9
400	350	12.5	200	duced, so that at 200	13	13
300	340	13.4	200	yards they could hardly	35	22
200	175	12.5	200	be seen through the sights. Location of targets known to firers.	45	27
Total			1,400		125	88

[1] Leaf sight used at this range.

*Results are given below of two series of experimental firings made with the present leaf sight and a special sight designed by the Ordnance Department, which combines both the leaf and battle sight feature. The battle sight corresponded to a range of 480 yards. While such meager tests are, of course, not convincing, they tend to indicate practically the possibility of providing a battle sight as above outlined.

Second Experiment.

True range.	Announced range.	Error in range %	Shots fired.	Visibility.	Sight used. Ord. aper. Hits.	Leaf. Hits.
800	700[1]	12.5	200	At ranges over 500 yards,	2	8
700	790[1]	12.9	200	targets could not be seen	8	8
600	525[1]	12.5	200	with glasses. At no range	9	12
500	565[1]	13.0	200	could they be seen	16	13
400	350	12.5	200	through the sights. Loca-	30	17
300	340	13.4	200	tion of targets known to	45	25
200	175	12.5	200	firers.	47	47
Total			1,400		157	130

[1] Leaf sight used at this range.

The set sight, no doubt, gives better results than the battle sight, provided the range is estimated with fair accuracy. With the masses of untrained troops which we will have to use in any large war, range estimation will be very poor, and there will be periods or stages in all decisive engagements when accuracy in sight setting cannot be expected, and again when a sight setting cannot be communicated to the firing line. When the psychology of the battle includes such conditions, it is better to have men trained to the instinctive use of a uniform common sight (battle sight) than to permit them to use ranges individually estimated and set on the sights. Control is better maintained, and a fairly definite zone in the hostile line is more densely covered by the former method.

The fact that the battle sight is arranged for use under 500 yards does not make it imperative that this sight be used at that range, etc. The proper use of the battle sight presents a problem to all company commanders in every fight. They should use the set sight as long as and whenever the conditions warrant it. They should judge when the use of the battle sight is necessary and act accordingly.

Granting that the battle sight must be used in battle and that its use is more difficult to learn than the set sight, should we not train the soldier in its use and should we not spend more time on this training, in view of the difficulties connected therewith, than on the use of the set sight?

In view of the foregoing remarks, I believe in the present course of training. Nevertheless, I am of the opinion that something should be done to correct the existing impression that the battle sight is to be used under any and all conditions when firing within battle-sight range.

HUGH A. DRUM, *Capt., 23d Infantry.*

The battle sight is not a device which is intended to give accurate results on the target range. It is intended to be used, as its name implies, in battle and at ranges when the fire control will probably not be the best, and when it will probably be impossible to announce the range. When this occurs, there should be some one sight which can be used by the firing line which will tend to keep the dispersion of shots at a minimum. With the sight leaf flat, at least all of the men are firing with the same elevation, whereas if it were impossible to announce the range and the rear-sight leaf must be used, there could be no assurance that one sight was being used.

I can see no reason for abolishing the battle sight, but there seems to exist a necessity for modifying our present model so that there will be a greater probability of hitting at ranges from 200 to 300 yards. The present battle sight, graduated for 436 yards, tends to cause the trajectories to be high at these ranges. I believe that a modification of the present battle sight so as to make it correspond to a range of 250 or 300 yards would be an improvement. The probability of hitting a head target at 300 yards would be increased when using the battle sight, if this were done.

C. W. Weeks,
Capt., 28th Infantry.

I have read with much interest the article entitled "The Battle Sight" by Captain George Chase Lewis, 13th Infantry.

The author advocates the abolition of the use of the battle sight, as now prescribed, for the fixed sight at all ranges and under all conditions, except against cavalry charges or surprises and ambuscades. He supports his arguments pro and con by results obtained in a series of experimental firings conducted by him under various conditions approaching more or less nearly those of actual combat firing. The data presented in the tables would seem to justify the author's contentions in the main and actually do so as regards the firings had under the conditions and circumstances obtaining. But the conditions and circumstances obtaining in the experimental firing only approach, but do not cover, those obtaining in actual combat. For this reason, it is believed the author has failed to prove his contentions, and the value of the tables given is materially lessened.

The reasons which dictated the adoption of the battle sight, are well known to military men and are in a general way stated by the author.

A careful reading of the article confirms my belief that the use of the battle sight, as now prescribed in combat firing, possesses decided advantages over the use of the fixed sight and that our training of troops in this respect should continue along present lines.

One of the statements of the author reads: "The Manchurian campaigns and the European war have shown that firing lines have lain for hours and in some cases for days at from 100 feet to 500 yards' range and that the targets exposed were only the heads or shoulders of prone skirmishers or entrenched lines. This necessitates, in order to secure hits, that the firer aim with the battle sight, not at the target's lower line, but at an imaginary point below it." Would it be unreasonable or contrary to common sense to assume that under the conditions stated, the fixed sight would perhaps be used if *better* results could be thereby obtained?

It should not be held that our regulations, in word or spirit, forbid the use of the fixed sight under all conditions over distances less than 600 yards.

CHARLES MILLER,
Major, 7th Infantry.

Why Not the Tump Line?

Recently, I was discussing the 1910 infantry pack with several officers of the regular service and asked them why the tump line had not been considered as a part of that equipment. No one knew.

A year ago I carried about forty-five pounds in the 1910 infantry pack for a distance of about 125 miles over rough mountain trails in Vermont; with me were three men who had never previously packed weight save in the blanket roll, while I have had experience with a number of forms of packs used in the woods, including a pack-harness that is in effect a combination of the Canadian tump line with the shoulder harness of the 1910 pack.

Personally, I think the 1910 pack the most comfortable military pack I have ever worn, and my men agreed with me; but I noted that my shoulders grew tired from the weight and necessitated rests that might have been avoided if there had been a tump line attachment to shift the weight to the neck. The officers with whom I have discussed packing, said that they had heard criticisms that the new pack cuts under the arms and tires the shoulder muscles. This is probably less serious than the fault of the blanket roll, which overheats the chest and constricts the lungs and heart; but it is a fault that could be avoided by a temporary shifting of the weight to the head and neck.

The Canadian tump line pack is carried on the back, the body stooping forward slightly but not enough to constrict the chest. The thongs do not touch the body, but pass over the shoulders to the forehead, where they widen to a broad, soft strap. With this, the Indian guides carry heavy packs considerable distances; it is said that they can carry 200 pounds twenty miles a day. I have packed ninety-five pounds in that way with less discomfort than I feet with a thirty-pound blanket roll. The muscles of the neck grow very tired, of course, before they are toughened; but with the combination harness sold by sporting-goods stores, the weight may be shifted from the neck to the shoulders by slipping the tump strap back over the head, resting the neck until the shoulders are tired and then shifting back to the tump strap to rest the shoulders. By thus alternating, it is possible to travel a much greater distance before a rest is necessary than if either method is used alone. Moreover, the change in method of carrying shifts the point of rest of the load on the back just enough to relieve the back and leg muscles.

The 1910 pack can be easily altered by the addition of a tump strap of the same material as the rest of the pack; and the webbing would doubtless be cooler than the leather of the Canadian strap; the head strap can be made adjustable by the same pattern buckle that is used elsewhere on the pack, so no new pattern parts would be required but merely a simple addition to the present equipment that would not interfere in any way with it.

It is not easy to sling the rifle with the 1910 infantry equipment save over one shoulder; the addition of the tump strap would not affect this while its effect in steadying the pack would aid greatly in climbing.

The tump line method seems most uncomfortable and impractical to those who have never used it; but to use it is to like it. I have yet to find a man who has packed with it who is not enthusiastic over it, no matter what his conformation. Has it ever been considered in planning our infantry equipment?

H. W. CONGDON,
Captain, 23d Inf., N. G., N. Y.

Book Reviews.

Jena to Eylau. By Field Marshal Colmar, Freiherr von der Goltz. New York: E. P. Dutton & Company, 1913. Cloth, crown octavo, 330 pages. Price, $2.50 net.

Prussia places her lowest ebb with the battle of Jena. But it also dates its rise to the position of a great power from the salutary lessons which it learned from that humiliating defeat.

To bring home the results of the haphazard military policy that prevailed in the days of Jena and Eylau as a contrast to the strong position gained by the pursuance of its opposite is evidently one of the aims of the work here under review. It is also the author's object to show that the rout at Jena was not due to lack of personal worth on the part of the Prussian Army but rather the disorganized condition into which the military affairs of the country had fallen and the prevailing ignorance of the real nature of war. In his preface, the author says: "I have always held that it was at Eylau in 1807, and not in the War of Liberation in 1813, that the old army vindicated itself before the tribunal of history, and my aim in the present work is to set forth the evidence in support."

The history here under review is in sequence with a previous work of the author entitled "From Rossbach to Jena." The account opens with a description of the retreat from the battle fields of Jena and Auerstadt. The moral condition of an army on the retreat after a heavy reverse is shown in this description:

> It was not merely the army that was beaten. The spirit that had lived in it and, now, if ever, should have shown its vitality, began to ebb away. Discipline vanished. Every one had known his duty in battle—to play the man and to follow his general—but now the demand upon him was something different from this. In spite of anxiety, confusion and fatigue, he was called upon to put forth great efforts, to freeze in the cold October nights, and to endure bare hunger. Such things could not be borne, such demands were more than the soldier could fairly be asked to meet, for in those days there were no maneuvers "under service conditions" to teach the troops endurance . . . The events of this night of 14-15 October, 1806, stand for all time as a warning against the mistaken kindness of sparing an army in peace, and against harboring the erroneous notion that even

fighting efficiency suffices by itself to meet the stern necessities of war.

The prevailing ideas as to the nature of war were not adequate to success in a contest with an opponent who understood war differently—

People's heads were still full of the idea that war was a game of chess between kings, in which victory depended on skill and reflection and not on brute force; a game in which the winner is quite satisfied with victory for its own sake. They readily admitted that in this case, the king had lost his game on the Saale, but could not understand why the opponent was not satisfied to let it rest there. No better proof of this mental attitude could be adduced than the childish hopes of a *cheap* peace with which the court circle deluded itself after its terrible disaster.

To allow the country to be devastated, its prosperity ruined, its calm shaken to the foundations, or its population sacrificed by continuing the hopeless struggle, seemed to the worthy and humane men who were in high favor at the time, the very extremity of rashness and folly, in fact, a crime. Nothing of the sort could be expected of any thoughtful general who had penetrated the secrets of the art of war and also infused the necessary element of diplomacy into his soldierly sentiment, or so it seemed to these enlightened minds.

In regard to training for war, the author says:

Training is as necessary a preliminary to devotion in a great cause as to courage and bodily strength. It is this sort of training, however, which our modern existence tends to eliminate, and the result will, in the nature of things, be felt at the moment when the mass of the nation is called upon to meet the strain for an exceptionally great effort.

In the battle of Eylau, the author finds the turning point toward a better condition in Prussian military affairs.

Thus the day of Eylau, albeit held in less honored remembrance than other great days of the nation's history, was in truth the first step towards the revival of Prussia's military glory after the bitter days of humiliation. On that day, it was proved that those who lifted up their voices on behalf of the old army and protested against its defamation, were right.

The text is by no means confined to an examination into the causes of the defeat and subsequent redemption of the Prussian Army. Many valuable lessons may be drawn from the description of the course of military operations; as, for instance, the folly of attempting to evade a pursuing army by making detours,

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which was the policy followed by the Prussian Army in the retreat from Jena to Prenzlau and which finally resulted in its being cut off from its base and in its final capture. The safety of the army retreating before a pursuer who was sure to follow the most direct route, would undoubtedly have been better conserved by the avoidance of detours which, at best, only afforded temporary safety, and by reliance upon the delaying action of covering detachments.

In this history, as in most of his other works, it is evident that Von der Goltz is addressing himself to the nation at large as well as to his comrades in arms. The volume here under review is the equal in quality and deserves to rank with the author's previous works.

Militia Field Manual. By Lieuts. Geo. R. Guild and Fredk. C. Test, U. S. Army. Menasha (Wis.): George Banta publishing Co., 1915. Cloth, 16mo, 217 pages. Price, $1.00.

This book covers its subject in a most excellent and concise manner and is an epitome of the usual duties required of the members of the Organized Militia through all grades of commissioned officers and enlisted men. The text shows insight into the Organized Militia and a thorough understanding of its weaknesses and endeavors to strengthen or overcome them.

Chapter II for commissioned officers gives information which the older officer may know, but it has never been presented in a more pleasing and concise manner. It is a fountain of practical information to the newly-made officer. Chapter III is a friendly but frank talk with the enlisted man on his reasons for being instructed and his faults, and gives some splendid advice. In the chapter upon the duties of the Adjutant General, the new incumbent may receive some valuable hints, while the experienced ones may find that they have been omitting some rather essential things. Paragraph 61 might be more explicit and logical by stating, "The Adjutant General should make all arrangements through the Chief Quartermaster."

For the new officer in the position of colonel, lieutenant colonel, major, regimental adjutant, regimental quartermaster, regimental commissary, battalion adjutant, battalion quartermaster and commissary, captain or company subaltern or regimental surgeon, there is a message in this text on pages 24–69. It is not extensive nor is it unknown, but it is to the point and very plainly stated.

The duties of the different enlisted grades are handled with equal care. The duties of each position are described with sufficient detail to make the competent militia officer long for assistants who know as much as this text states. Is there anything new therein? Probably not, and some of the competent enlisted men may find this book merely a review, but to the new and inexperienced, it should be hailed as a trouble-saver and a panacea for many of the woes attendant upon the militia.

The chapter on subsistence deserves special mention for the fund of information contained therein upon the ration, the way to procure and prepare it. The tables are invaluable to a mess sergeant and are alone worth the price of the entire text to the ordinary militia mess sergeant and commissioned officer. Pages

92–137 are replete with valuable information concerning subsistence, and menus are furnished that read so well that one can almost taste them.

A chapter is devoted to camps and sanitation, which possesses no startling innovations other than the compact arrangement of very complete information.

Paragraph 512 in Chapter IX seems to encourage the use of columns of twos for marching on other than good, wide roads. This may be open to question. Whenever column of squads can be utilized, it is believed the formation in column of two should not be assumed. Paragraph 515 advises abstinence from drinking until after the second halt; it might perhaps be better to advocate after the fourth, but this depends so much upon the individual that a fixed rule is hard to establish. Paragraph 526 recommends 10-minute hourly halts for mounted organizations. Paragraph 102, Field Service Regulations, 1914, states that these halts should be 5 minutes, which is considered the better practice. Information as to wagon-train and railroad transportation is given, and the method of handling both is described. The infor-

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mation which is essential and which is important for the militiaman to know, will be found under this caption. The care of animals, harness, pack saddles, equipment, small arms, common diseases, and treatment of animals have been covered by a selection of suitable information from the best sources.

A chapter is devoted to pay of troops, that bugbear of the company clerk and company commander. It is possible that paragraph 621 herein may need modification in the near future. Paragraph 629 enumerates the conditions to be met to entitle troops to Federal pay. This may change from year to year and could well have been omitted from a permanent text. The instructions concerning pay roll are very complete, and the same remark applies to the chapter devoted to U. S. Army blanks. A careful study of this last chapter will certainly clarify the hazy view of Army blanks which appears to prevail in the Organized Militia.

This text is a book about the size of the Infantry Drill Regulations. It is well indexed, and represents considerable labor by two officers who were in thorough sympathy with their work. The book might well be used in conjunction with the "Manual for Privates of the Organized Militia and Volunteers" and would logically fit into a scheme of instruction immediately after that text. It is full of the very kind of information that the Organized Militia needs in its militia status, and the authors deserve commendation for the result of their efforts.

To the militiaman who is seeking correct information in complete, concise form, this book is recommended.

The Note Book of an Attaché. By Eric Fisher Wood. New York: The Century Company, 1915. Cloth, 8vo, 345 pages, illustrated. Price, $1.60.

This is the most interesting book describing first hand impressions of the European war zone we have seen.

Mr. Wood, a graduate of Yale, was studying architecture in Paris when the war broke out, and volunteered for duty at the American Embassy in Paris. As such, his particular duties were the care of German and Austrian affairs entrusted to our Embassy, and as a result, he carried despatches to Berlin, Vienna, and London. He also made several trips to the French front.

The book is written in the form of a diary, giving impressions from day to day, supplemented by certain deductions made in a neutral spirit, but colored, as he admits, by a strong sympathy for the French. He does not fail to draw upon his experience to advise his countrymen to learn the lesson of preparedness. He even goes so far as to state that France was not invaded through Switzerland rather than through Belgium because of Swiss preparedness, but in view of the many economic advantages of the route chosen, this statement is open to question. While admiring the efficiency of the Germans, he thinks their untactful dealings with foreigners are generally responsible for most of the anti-German sentiment abroad, and contrasts this with conditions in the Dual Monarchy, especially Hungary, very much to the disadvantage of the Germans. In contrast to their world-wide efficient spy system, he looks upon the local German detectives as ludicrously stupid, reciting an experience when two of them endeavored to seize his despatches on a train en route from Berlin to Flushing. He acquits the Germans of having committed "atrocities" in France and says that most of what has been written, confuses unavoidable or legitimate destruction with violations of the law of war. "Looting" of French wine cellars takes on a different aspect when one finds the bottles carefully broken along the roads in the retreat from the Marne in order to delay automobile traffic. As evidence that the men who are fighting, respect each other more than do the bellicose citizens at home, he cites the expression on every English officer's lips when they reached the vicinity of Paris at the end of their three weeks' retreat, "Well, we got damned well licked."

The author makes many interesting observations on military matters, some of which, no doubt, are perfectly sound, others as obviously unsound. For example, confusing the mobile with the static stage of the war in the West, he states that the important duties of infantry are "to dig, to hide, and to shoot." If the French infantry had been taught only these things or had they been a mass of semi-trained troops, the retreat to the Marne would have been a retreat to the Mediterranean and have resulted in the obliteration of France.

No military man will be disappointed in reading this book.

Field Artillery Evolutions. By Chester B. McCormick, Captain, Field Artillery, Michigan National Guard. Privately published by the author. Illustrating the formations, maneuvers, etc., of the 3-inch field battery and its various elements, in conformity with regulations. For officers and noncommissioned officers' schools of the Army and the National Guard.

The author is already well known as the designer of diagrams and forms to facilitate the instruction of field artillery organizations. He has extended and revised his charts so as to embrace all the essential formations of a battery and to comply with the latest changes in the drill regulations. By referring to these charts, one can follow at a glance all the evolutions of a battery, both dismounted and mounted. Each chart contains references to all paragraphs of the drill regulations which are applicable to the disposition shown. The subjects are conveniently arranged and indexed under the headings: the battery dismounted; the gun squad; the driver; the battery mounted; and miscellaneous. Under the latter heading are included illustrations of camps, loading field artillery, the firing battery, ammunition, matériel, determination of firing data, conduct of fire, artillery positions, and signaling. The charts are accompanied by a complete set of blocks representing horses, carriages, etc., which may be used for demonstrating and practicing the subjects described. The size of the charts is 17x25 inches and they are neatly bound in a leather cover so as to roll conveniently. The set cannot fail to be of great assistance to any organization, and to newly organized batteries of field artillery, it would appear to be indispensable.

Editorial Department.

A higher training and greater individual ability are essential today for Infantry than for any other arm. It is more difficult and it takes a longer time to train Infantry to any standard of efficiency today than to bring any other arm to a corresponding standard.

Summary.

To those who are familiar with the attitude of this magazine on military questions, no restatement of its policy is necessary. Its views have been defined with sufficient clearness to permit of their being summarized in a single word—organization. We have regarded the observance of this principle as absolutely essential to an efficient national defense and as the only enduring basis upon which an efficient military establishment can be constructed. With this conviction, we have constantly laid emphasis on the fact that whatever military force this country sees fit to provide, must be complete in all its essentials to be of any value on the outbreak of war. The omission from the peace establishment of the proper proportion of one or more of the arms necessary to the efficient action of a field army simply means that the time and expense devoted to the development of other arms in excess of the proportion required by the war organization of the forces, represent so much lost energy. For such forces in excess of their due proportion will be forced to lie idle while the new units are being formed and trained for service. Recent history is very enlightening as to the length of time required for placing new units on a war footing. New armies which have been formed and reckoned on for service within six months after the outbreak of the present war, were not, in fact, ready for service nor put into the field until the end of the first year. A minimum period of ten months' training is now considered necessary to prepare a recruit for service in the field.

The principle of organization is now generally accepted, in theory at least, throughout the service. It first received express recognition in the General Staff Report of 1912. This report has been the subject of serious study by the entire service, and the

broad principles that underlie it are thoroughly grounded in service opinion. Adherence to these principles is building on a sure basis; repudiation of them will definitely put an end to all hopes of an efficient national defense.

Since organization summarizes our creed in military matters, it seems opportune, now that it has become a great national question, to review in the editorials which follow, what we have understood to be comprehended in its significance and what influences we have considered to be anti-organizational and disorganizing.

Organization.

This is an abstract conception, and it is, therefore, not strange that in a country which has seen so little of its practical application, there should be but slight comprehension of its vital significance. To understand the force of this conception, there must be a realization of the spirit that it embodies and that vitalizes all its ramifications. For organization is essentially the embodiment of a purpose which shapes all means to its ends, subordinates details to essentials, and

> ". . . . labors and endures and waits
> Till all that it foresees it finds
> And what it cannot find, creates."

Purpose is then the controlling factor in organization and the master builder of its architecture. The end being established, the organizing spirit avails itself of and shapes all means for its accomplishment. If concrete forts block its advance, it provides itself with 16-inch howitzers to clear its way. It does not, however, adopt these implements for their own sake or for any innate virtue they may in themselves possess. If a wall of fire blocks its progress, it supplies itself with the means of starting a more powerful counter fire and sweeping the obstacle aside. It does not, however, find any virtue in fire *per se* but employs it only as a means to its end. It finds that its columns must both march and fight, and it organizes them so that they can fulfill both purposes. It determines that a certain point must be held as a base of operations for an army or a fleet or as an obstacle to an opponent's advance, and it fortifies the locality best adapted to its purpose. It does not, however, pin its faith to fortifications for their own sake or permit the interests of local defense

to disperse the energies necessary for the execution of its purpose.

The form of organization should not be mistaken for its substance. Mere imitation can never result in correct organization. For means which proved successful in the execution of one purpose, will prove totally unadapted for the attainment of a different end. With the lack of an independent purpose, it is common to mistake the form of organization for its essence, to assume that the virtues which have led to success lie in the implements used and the formations adopted. Form in itself has no value. The mere grouping of men into military units does not, for example, constitute organization. Such improvised groups have never learned to substitute a collective purpose for the impulses of the individual. This is but another way of saying that they lack discipline. Moreover, had they learned subordination, they would still be ignorant of the means of applying their collective power. This is no more than to say that they lack training. The moment that the movements of a number of men must be combined in a common operation, a technique of the highest order becomes necessary. A military writer has thus summed up the training to be given the private soldier in combat:

Train each skirmisher to

1. Pay close attention to his leader (by drill with signals);
2. Give constant heed to the actions of his neighbor even in difficult terrain;
3. During movement to glance alternately at his squad leader and neighboring skirmisher;

and to coordinate his own actions accordingly.

It is evident that even these simple duties of a private soldier —and these are but a few and among the simplest—are only to be instilled as the result of long practice and habit. And it may here be remarked that the essential element in the formation of habit is time—a fact that many who see only the intellectual and mechanical sides of training, are inclined to forget.

Let us not mistake the form for the substance. Back of every great military organization, shaping it to its ends, lies that vitalizing and creative power—the will to victory.

The Organized Nation.

The moment that a number of human beings are grouped together in a community, they develop certain common interest in

opposition to other groups. The area over which the binding tie of interest extends its influence, is dependent upon many factors, among the most important of which are geographical conditions and means of inter-communication. Patriotism is nothing more than enlightened self-interest.

A people that has once become conscious of its common interests, soon develops a national purpose—be that purpose self-defense or expansion—and endeavors to harmonize all means at its disposal therewith; that is to say, it organizes its personnel, its terrain, and its matériel.

The first question for decision in the organization of personnel is the question of numbers. To what extent are numbers necessary in the execution of a national policy?

In general, it may be said that this factor is one that depends more upon transportation facilities than upon any other. The growth in the size of armies has been concurrent with improvements in the means of locomotion. An army of several million men today would not tax the transportation facilities of a modern European or American theatre of war to a greater extent than a force of the same number of hundreds of thousands did a century ago. The necessity for increased numbers which improved facilities of transportation have brought about, made necessary a revision of the military systems of all the great European powers and has resulted in the most striking military phenomenon of modern times, the Nation in Arms. Adhering too long to the system of inexpansible professional armies, France suffered the humiliating defeat of 1870–71.

Thus numbers have become essential to success in modern war; to a degree, however, varying with the particular situation. In the case of a nation separated from its possible opponents by the sea, the strength which it must provide for defense is a function of the transport facilities of its potential adversaries. This is obviously less than in the case of powers separated from each other by a land frontier, but is constantly on the increase.

Two methods of meeting the necessity for increased numbers required by modern war have been proposed. The one consists in conscription for a period of service with the colors of all or a large portion of its able-bodied citizens and then passing them to a reserve. It is to be remarked that the success of this method depends upon an assured source of recruitment. Whether this

assurance can exist without conscription is one of the military problems for solution today.

The second method consists in the maintenance of a first line recruited by voluntary service with a second line composed of a civilian soldiery subjected to training for a limited period. Some form of this solution must be adopted by small powers whose financial resources do not permit the maintenance of a large permanent military establishment. It is also a likely first step in the military preparations of a nation which is faced with a military problem for the first time and whose past conditions have permitted it to dispense with serious measures for defense. From this point of view, the effectiveness of the measure does not enter the question. Progress toward any goal is seldom made in a single leap. There must be intermediate objectives of more easy attainment. Habits of thought are conservative. We can scarcely expect to see a people given over to an almost total individual liberty and absolved from the necessity of making great sacrifices for the common good abruptly accept a condition which involves a complete revolution in its methods of living, except under the influence of an overwhelming catastrophe. It is plain, however, that in the face of altered world conditions, the old haphazard methods cannot be persisted in without exposure to appalling consequences.

Numbers are not, however, the only essential to efficiency in modern war. Quality enters into the problem as well as quantity. The complete and rapid defeat by a German army of 150,000, of the improvised army of 400,000 which France put into the field in 1871 after the destruction of her trained forces, is perhaps the most striking modern illustration of the ineffectiveness of mere numbers. Many nations, it is true, have discarded their small permanent establishments in favor of universal service for short periods. Thus Portugal, Holland, and Switzerland were compelled to adopt a system calling for short periods of service on the part of their entire citizens in order to obtain the requisite numbers. Their resources both in men and matériel would not permit them to hold the required number of men with the colors for periods of several years as is the case with their more powerful neighbors. Moreover, their situation favored this action, as they had only to meet the requirements of passive defense until the nations adversely affected by a violation of their

neutrality should come to their aid. To execute a mission of this character, a force does not require the cohesion that is necessary to push home a decisive attack.

It is not alone, moreover, the number of instructed soldiers that determines the strength of a military force. It is rather the number which can be put into the field. This number is limited by the quality of the *cadre* which can be given them. It is obvious the greater sphere of action of a commander cannot be mastered in the same length of time as the duties of the troops under his command. Many schemes have been proposed for remedying this deficiency, but they are all more or less academic in their character. As General von Litzmann has said, "The mastery of the command of a unit can only be learned at its head."

National Geography.

The cohesion of a nation in the face of an assault is dependent upon the maintenance of connection between its outlying parts and its vital centers. If these are severed, its component parts are dissolved and can no longer cooperate in a common effort.

The vital centers from a military standpoint are defined by the greatest density of population, multiplicity of manufacturing plants, and, above all, convergence of the lines of commercial communication, the railroads. It is not difficult in any given case to locate the vital center or region of a country. In this lies the importance of Paris, on which the railroads from every part of France converge.

Obviously, it is of supreme importance to protect this vital region. For we may be sure that any attack will be immediately directed against it in the hope of gaining a quick decision, unless it is adequately protected. Protection of this region is thus of primary importance. Protection of other points is secondary and only to be considered after adequate provision for primary defense has been made.

This consideration determines the position on any threatened frontier at which the first-line troops must be assembled. Here they will occupy a line covering the threatened territory, in a position of readiness to move to any part of the frontier which separates them from the foe.

To the rear of this position and covered by the troops defending it, the point of mobilization of second-line troops is located. Its distance from the first line is largely dependent upon the time required for mobilization in the true sense of the word; that is, the time required for fitting them to participate in mobile operations in the field.

There are thus two lines constituting the backbone of a system of defense: the position of defense and readiness of the first line troops; and the point of mobilization of the second line.

The strategy observed by the French army at the outbreak of the present war illustrates the application of this principle. The covering troops held the position marked by the barrier forts near the threatened frontier. Reserve formations mobilized under the protection thus afforded along the line from Paris to Nancy. This was not done on the inspiration of the moment. It is inconceivable that in a nation so seriously prepared, it was not foreseen and carefully planned in all its details years before the outbreak of the war.

On these two lines, the whole land defense of a country hinges. Every other means of protection must be brought into relation to them. Points in front of the primary line of defense are defended only because their defense will block the progress of the invader, or as advanced bases upon which the main army may advance from its position in readiness, or as bases for the operations of the fleet. They are of direct military value only in so far as they contribute to the efficient action of the mobile army or the fleet. Defense against bombardment is relatively of minor importance and to be considered only after provision for meeting the great military problem has been made. It can never be the basis of efficient national defense.

The geographic position of a potential opponent may, however, be such that it is impossible for him to reach the vital centers of the country. Or his purpose may be served simply by seizing territory on a frontier at a great distance from the heart of the country. We have thus to consider the defense of possible secondary objectives.

Sound strategy requires concentration and forbids dispersion. It is obvious that if the forces are disposed so as to cover all possible objectives, we shall nowhere be present in sufficient force to make an adequate resistance. Moreover, by adopting a policy

of dispersion in disposing our forces at the initial stages of a war, we shall run the risk of being so weak in the region of most importance to national safety as to suffer such a defeat at that point as will bring us to our knees before our opponent.

It will, therefore, be impossible for the defender to be equal in force in a region of secondary importance to an opponent who selects it as his objective and has the advantage of superior numbers which results from his initiative. It should, however, be possible for the defender to shift his forces to the point of attack. This requires that he should retain control of communications leading from the primary to the secondary objective. But this is not sufficient. He must assure himself of the possession of the most advantageous position for conducting operations in the theatre of attack. To fail to do so may result in surrendering an advantage to the enemy which may be decisive of the issue of operations. The maintenance of the integrity of communications and of an advantageous position as a base of operations is assured by the establishment of a fortified railhead at a point near the railroad center of the threatened region. This point need be occupied only in sufficient force to hold back the advanced troops of the enemy long enough to permit of the concentration of the main army. From such a base, it will be possible either to hold back the opponent from his desired objective or to advance against him along any one of the converging lines of communication.

Thus the whole system of geographic features is a framework of interlocking parts.

Ⓓ

Matériel.

Any discussion of matériel as a factor in national defense naturally falls to the last place, not by reason of its unimportance, nor yet by way of climax as a factor of predominating importance; but rather because in respect both to character and the establishments for its manufacture, it is subordinate to the questions of personnel and terrain. Some discussion in explanation of this general statement may be in place.

Under a defensive policy, geographic considerations determine the initial disposition of the troops at the outbreak of war. The location of the troops defines a line of defense behind which a

zone of relative safety may be considered as established and in front of which everything, except the territory within the precincts of naval bases and certain fortified points of support, will be exposed to the danger of capture or destruction.

The relation of this consideration to the location of arsenals and depôts is obvious. If they are not located with reference to their safety in time of war, they may not only be unavailable for the use of the defender but actually constitute a source of supply at the service of his adversary. Reverting to the example of France, which we have selected because it is a typical illustration of the workings out of a defensive policy, we find that all its great arsenals are located well within the defensive line.

The precise location of these establishments in rear of the initial position of the army is largely determined by communications. They should be so located as to facilititate the rapid transport of supplies to any theatre of operations.

Other geographic features affect the *character* of matériel. For example, the nature of roads determines the weight of vehicles, the practicability of the use of motor transport, etc., and the frequency of routes in the theatre of operations largely affects the quantity which can be utilized. Where routes are infrequent and, therefore, taxed to their maximum capacity, we may expect to find fewer of the heavier implements of war which with their accessories occupy long stretches of roadway on the march, and more of the lighter types of matériel which occupy slight road space.

Another geographic factor of great influence on the character of matériel is the extent of the probable theatre of operations. If this be bounded on both sides by neutral frontiers or other impassable obstacles like the sea, and the line connecting the obstacles is so short as to permit of occupation at the necessary density by the force which defender or his opponent has available, then it is almost a certainty that the party which is thrown on the defensive, will, provided he can offer sufficient resistance to gain the necessary time, dig himself in and rest his flanks on the impassable obstacles marked by the sea or neutral territory. Trench warfare of the character which has been conducted in France for the past year will then result. Given the strength of both opponents in this theatre and length of the frontier separating them, it was a foregone conclusion that unless a decision

was gained in the first contact of the main armies, trench warfare would result. This is not to say that either we nor perhaps any one else reckoned on conditions of precisely the present character. The tenacity with which a well constructed trench flanked by obstacles could be held, was not, of course, to be foreseen. The fact which it is important to bear in mind in the present connection is that it is indispensable to the long continuance of warfare of this character that the flanks rest on impassable obstacles. While this condition is by no means inconceivable in a country of much larger area, the probabilities of its occurrence are much more remote.

The effect of this consideration on matériel is also obvious. A country which must reckon on the conditions of elaborate trench warfare must be amply supplied with means adequate to that situation. It would, however, be an undue dispersion of energy for a country differently situated to devote a great part of its attention to a situation with which it is not likely to be confronted. It should, moreover, be borne in mind that in point of time, *mobile operations precede the static and are, therefore, the first in order of preparation.*

Trenches will, of course, be employed even in mobile operations. What we have in mind here, however, is the elaborate system of trenches constructed when an indefinite time is available, which cannot be coped with by the ordinary means at the disposition of a mobile army but require a special class of matériel for their reduction.

The influence of matériel on the issue of a war is usually much over-emphasized. It floats on the surface of events where it catches the eye of the too casual observer, ignorant of the profounder movements beneath. This tendency to over-rate its influence is increased by the natural human inclination to attribute defeat to material rather than personal causes. To take a homely example from our own profession, we find that the soldier who fails to "make good" on the target range, almost invariably attributes his failure to his rifle. It is far from our intention to discredit the importance of matériel in war. But we view it as an effect rather than a cause, as but one product of the great evolving purpose that shapes all means to its end. And it is in lack of continuing purpose that the causes of defeats are to be sought. Material deficiency is but one evidence of

that lack. Without the basis of a trained personnel, matériel is valueless in war. As Colonel Montaigne has pointed out, an antique blunderbuss in the hands of an untrained man is about as effective as a high-power modern rifle; while the latter increases the destructive power of the trained rifleman a hundredfold.

How can we, without having solved our geographic and personal problems, attempt a solution of the question of matériel which is dependent on both?

Φ

Disorganizing Influences—Pacifism.

Pacifism in its extreme form is a development of comparatively recent years. Fostered by a subsidized propaganda, an organized campaign has been conducted under the guise of humanitarianism, for the instilment in the minds of the youth of the country of doctrines so pernicious and demoralizing that twenty years ago they would not have dared to raise their heads. The appeal of pacifism has been directed to the lower instincts of human nature. It has taught a doctrine which, shorn of its disguises, means nothing short of passive non-resistance. And since military establishments are the symbol of the contrary view, of active resistance to aggression, it is logical that it should have leveled its attack against them.

From a practical point of view, the evil of pacifism lies in the fact that for a unified national purpose, it substitutes a different one at variance therewith—the preservation of peace. It is, therefore, disintegrating in its influence on the nation. Accepting such a doctrine, a nation can formulate no continuing policy—for it must yield to the first comer who challenges its position. In this world of force, it can make no move without coming in conflict with other interests and must, therefore, remain in the quiescent state of a Korea.

Nothing could be more anomalous than the position of a pacifist of the extreme type. For the very principle which animates him, forbids him to make the struggle necessary to its maintenance. He has a cause for which he cannot fight. But like every propagandist, the pacifist must have an opponent, and he selects the bogey of militarism which he hopes to destroy by a slow process of infection, undermining the national stamina.

He can conquer only by weakening the power of resistance, the ability to maintain itself, of his own people.

Let us hear the creed of this school from the mouth of one of its leading disciples, a member of the International Peace Commission:

> The time will come when the men and women of a nation will decide on the pursuance of war or peace and not the rulers and the kings. . . . Say, mothers, do you purchase toy cannons, tin soldiers, and swords for Christmas presents? If you do, you teach your son to play war when young, and when he grows up, he wants to make war.
>
> Disease is no more dangerous than war itself, and who of you mothers sitting before me would like to see your son or husband go out to war again as they did in '61 to fight against neighbors?

It is difficult to contemplate this species of pacifism without a feeling akin to disgust. There are other forms of the doctrine, however, more worthy of respect. These have arisen from a consideration of the evil effects of war upon commerce, art, and other pursuits of peace, and from the attribution to military establishments of the cause of these effects. Many professors of this form of the doctrine are amenable to evidence. For their conversion, it is only necessary to bring about a realization of the entire dependence of national prosperity and civilization upon the cultivation of the arts of war. And the number of recent conversions has been truly remarkable. We believe we are justified in saying that there is not today a single great newspaper in this country opposed to the cause of preparedness and but very few that are not actively urging some measure of preparation. This is in marked contrast to the conditions that prevailed a little more than a year ago. There are still, to be sure, not lacking those who, like Chancellor Day of Syracuse University, believe that "if you prepare for war, you will get it." But there are many more who are beginning to see that if we do not prepare, we are more certain to get it—and in any case prefer to be prepared.

Three Lines of Defense.

Disorganizing influences are not confined to the civilian attitude toward national preparedness. There may be in the military establishment conceptions and practices that tend toward dis-

union rather than unified effort. Indeed, the military establishment is quite likely to reflect national disorganization where such exists.

The popular conception—which is by no means in practice at least confined to the people—groups the agencies of defense into three separate, distinct, and independent classes; namely, the sea-power, coast fortifications, and a mobile army. Each of these has been conceived as independent of the others, each rearward line coming into play only with the failure of more advanced defenses.

The result of this conception has been the substitution of three distinct purposes for the single one by means of which alone the unified action of the national forces can be insured. Under such a conception, teamwork of the combined forces with one object in view is out of the question. Being constituted as separate lines without relation to each other, each line must necessarily attempt to develop itself in such a way that it can execute the mission imposed upon it. The obvious impracticability of this attempt may make some examination into the effects of the pursuance of such a policy desirable.

The sea is a line of communications. The agency upon which we rely to keep it open to ourselves and closed to the enemy, is the fleet. This is practically the limit of the sea power's function. It cannot capture land fortifications, neither can it destroy an army that is beyond its reach. It is solely an agency for the protection of a line of communications.

Granting that we have command of the sea, we have then to consider what use we are going to make of it. Can we gain the object of a war solely by denying the use of that avenue of communications to the enemy? We have a clear illustration in the war now raging that the possession of that power alone cannot accomplish the object of a war. It is also evident from the same example that a nation's safety may depend on the issue of a battle fought overseas. We are not here under-rating the importance of the command of the sea. We are merely indicating that the importance of that factor lies in the fact that it makes possible the action of land forces by keeping a line of communication open to them.

This is sufficient to show that naval forces are not to be considered as independent agencies sufficient unto themselves.

But even in their mission of maintaining the continuity of a sea line of communications, naval forces are not independent. Their radius of action is limited by the duration of their fuel supply. Hence, their ability to operate depends on the existence of bases in the waters where operations are to be conducted. If the possessions of a country are separated by wide stretches of sea, they cannot all be immediately protected by the fleet at the outbreak of war. If bases in the outlying possessions are only weakly held, an adversary who promptly takes the initiative, can quickly reduce them and thus deprive the fleet of its ability to operate. Thus the command of the sea is dependent upon the existence of naval bases as well as of naval strength. Moreover, if it is desired to conduct naval operations in waters where there are no existing bases, the first step must be the establishment of a base protected by adequate land forces.

We cite the above facts by way of illustration of the error of considering the fleet as an independent first line of defense. There is, of course, nothing in the statements made that are not perfectly familiar to all military and naval men, but practice sometimes fails to accord with these very elementary principles.

But the assumption that there is a second line of defense, intervening between the fleet and the mobile army, is even a greater error. For there is some justification for considering the fleet as a first line of defense, though not an independent one, as undoubtedly while the issue of the command of the sea is being determined, the fleet is principal and land forces secondary. It needs no demonstration to show that coast fortifications impose no barrier to the passage of an invading army. The conception of an intermediate line of defense is entirely artificial and has no basis in fact or in history. It has nevertheless been entertained to such an extent that a proposition to defend an island with perimeter of more than 100 miles by means of batteries without defense on the landward side was once seriously advanced, and rejected only on account of the expense entailed.

We believe that as concerns the place, in a scheme of national defense, of the fleet, coast fortifications, and the mobile army, the case may be stated about as follows:

The ultimate decision in war is gained in the contact of field armies on the field of battle. Hence as regards the ultimate object of war, the fleet is to be regarded as auxiliary to the mobile

army. But the command of the sea determines whether the contact of field armies will take place on our own or on foreign territory and also which party will have access to the resources of neutral countries. It is, therefore, of immense importance. It thus becomes an intermediate objective; during the struggle to attain it, naval forces are principal and land forces, for the time being, auxiliary. Coast fortifications are always auxiliary; they owe their existence either to their relations to the fleet on the one hand, or the necessities of the general scheme of land defense on the other. Any attempt to project them beyond this sphere is a waste of energy.

To coordinate these various agencies, the adoption of a military policy is essential.

¶

First and Second Line Troops.

In all countries that have had to face a great military problem, there is no confusion of mind as to what constitutes first and second line troops. The idea that by mere force of designation, partially trained troops could be made to constitute part of the first line, available for instant service at the outbreak of war, could gain a footing only in a country completely unfamiliar with military affairs and military history.

This idea is disorganizing in its influence in that it assumes as constituting part of the force estimated as immediately available at the outbreak of war, troops that cannot be reckoned upon for service for many months thereafter. This must result in the upsetting of plans based on a fictitious strength and in the disruption of the peace organization of the troops.

Military history is very clear as to the quality and training of the troops that can render efficient service in the first line. Were there no other source of information, the experience of the present war is sufficiently conclusive. *No short cut, that will eliminate the necessity for thorough training, has yet been discovered.*

On account of the lack of a clear conception as to the meaning of the terms, first and second line, it would perhaps be best to avoid those designations altogether and to speak of the different classes of troops as trained, partially trained, and untrained.

It goes without saying that any scheme of organization which provides for the intermingling of any of these different classes

of troops is faulty. For such a scheme ties down the better trained to the pace of the more poorly trained and makes them unavailable for use until the troops to which they are attached are ready for service. Thus the time spent in giving them a training adequate for first-line service would represent so much lost motion in the machinery of preparation.

¶

The Function of Fire.

The increase of the power of fire is one of the most striking developments of modern warfare. So great has been the impression created by the effect of fire that many have been unable to see that there is any other element in war worth taking into consideration. There are not a few today who, imbued with this belief, have gone so far as to advocate the substitution of the machine gun for the rifle, thus making of the soldier solely an agency for the delivery of fire.

The effect upon organization of the accepted conception of the function of fire is fundamental. Either fire is principal, in which case the most efficient organization is that which is capable of developing the greatest volume of fire, regardless of other considerations; or it is auxiliary to the advance of the attacking line, in which case the most efficient organization is that which permits of the development of sufficient fire to insure the protection of the advance and make its movement possible.

We can arrive at some conclusion as to which of the two above hypotheses is correct, by a consideration of the two extreme cases: the one which permits of the greatest development of fire power and the other which is most favorable to maneuver.

The conditions most favorable to fire are: delivery from a position whose flanks cannot be turned and against which the opponent, if he attacks, must, therefore, proceed directly; exact knowledge of range; visibility of the target or exact knowledge of its location; and delivery from cover.

All of these conditions we have seen united in the positions now occupied by the belligerent forces in France. Yet week after week of bombardment, unaccompanied by an advance, has taken place without any apparent change in the situation. The advantages that have been won—they have so far been slight, it is true, and purchased at the expense of heavy loss—have been won only through an advance and assault by an attacking line. Only

through a breaking up of the very conditions that are favorable to fire and a restoration of the possibility of maneuver, can either party hope to attain a decisive victory in this theatre of operations.

There could be no clearer demonstration of the subordination of fire to movement and its inefficacy as an independent element.

On the other hand, the conditions that diminish the power of fire are in the main: the necessity of delivery of fire toward a flank or in a direction decidedly oblique to the front; moving targets; lack of exact knowledge of ranges; and ignorance of the exact location of the target.

Inversely, these are the conditions most favorable to movement. By gaining a position on the flank of his opponent, a combatant places his adversary in such a position as to deprive him of the power of making effective use of his weapons and, therefore, of the ability to oppose an advance. Closure to the assault is then easy of accomplishment. Fire is here an aid but only an aid, and its importance has greatly diminished as compared with the first case considered. Mobility, *i.e.*, the ability to "git thar fustest with the mostest men," is the predominant factor. The same result would have followed if fire were eliminated entirely from the question and two opponents armed only with the weapons of hand-to-hand warfare.

It is this latter class of operations that net the great decisive results of war. By effecting a change in the relative disposition of the two forces through *movement*, an army places itself on the flank of its opponent, rendering him helpless to resist its attack; or across his line of retreat, cutting off his supplies; or penetrates his line, producing disorganization and rout.

It is here to be noted that the subordination of fire to movement implies nothing as to the relative *importance* of the two elements. Since under the conditions of modern warfare, movement without the aid of fire is impossible, the latter element stands on a footing of equality with the former. If one object can be attained only by the attainment of another, then the second object becomes of equal importance with the first. The important thing to bear in mind in this connection is that we should not lose sight of the ultimate in the pursuit of the immediate—that in our respect for the power of fire, we do not forget the fact that its whole significance lies in its ability to aid or retard movement. If the latter is eliminated, fire loses all its entire purpose and value.

The bearing of the relation between fire and movement is an elementary fact which is controlling in its influence on the organization of a field army. For the length of the columns of which a mobile force is composed, is limited to that which can accomplish an average daily march in the period between daylight and darkness and is, therefore, to be considered as approximately fixed by this limitation. Any increase in the elements which operate by fire alone can, therefore, be purchased only at the expense of other elements which combine the functions of both fire and movement. It is, therefore, plain that if a certain limit be exceeded in respect to the former element, the columns will be so lacking in the elements necessary to an advance that they will be constrained to a constant defensive in the face of a more logically organized opponent.

We cite these facts merely by illustration of the current error of assuming that there is no limit to the fire power with which an organization can be endowed and of the result which an attempt to increase it beyond certain limits will entail.

The infantry division is the basis of mobile-army organization. It is designed to cover a frontage in combat which varies within certain limits. For offensive power, there must be included in the division a sufficient number of rifles to cover its frontage. The infantry strength is, therefore, determined by the extent of the frontage occupied by the division in combat and the number of men per yard required. This cannot be decreased without loss of offensive power.

The division is essentially a mobile organization designed to fulfil the functions of a march and combat unit. It possesses no special significance in operations of the static character of trench warfare.

Organization cannot, of course, ignore operations of the latter character, nor the necessity for increased fire protection which they require. Provision therefor should, however, be made by incorporating the peculiar agencies necessary for that kind of warfare in units to the rear of the advancing columns, from which they can be brought to the front when required. We should avoid confusing the place in organization of the implements required for different classes of operations. And we should, moreover, measure the extent of our preparation for each class according to the probability of its occurrence.

We do not wish to be understood in this discussion as maintaining that the greatest fire effect is produced by the agencies which act by fire alone. On the contrary, the statistics of all past wars show that the overwhelmingly largest proportion of casualties is inflicted by the rifle. What we are trying to bring out is the maximum result which may be expected from fire alone and, consequently, the maximum which can be accomplished by an agency endowed with that power only. In this connection, it is well to recall that the same claims that are now being made for artillery fire effect were made at the outset of the Russo-Japanese and Balkan Wars and were subsequently refuted when the official statistics became available. It is also well to bear in mind that the reports now current have their source for the most part in the statements of newspaper correspondents who have never penetrated within the zone of decisive action. It is natural that they should be impressed with their own experience, which can have brought them into contact only with elements well to the rearward of the fighting line. Indispensable as the support of artillery fire is to the attack, there is no record of any case where decisive results have been secured by its independent action. Aside from this question of relative proportion of losses, we should not lose from view the effect upon the number of casualties of the advantage of position gained by maneuver.

Lacking that organization which assigns to each element its duty in the common effort, we should not be surprised to find the personnel of the different special arms sometimes regarding a function as principal that is solely auxiliary, technics taking the place of tactics, and the general purpose lost to view and replaced by as many separate purposes as there are arms of the service. Without organization it is inevitable that the artillery should regard the delivery of effective fire as the sole object of operations, and that the infantry should not consider in its training the means of meeting the obstacle created by the fire of hostile artillery nor the ways of profiting by that of its own.

That our own condition is not novel in this respect and that there is hope of some day emerging from it may be gathered from a statement made very apropos of this question by Colonel Cordonnier of the French Army a little more than a year ago:

> The feeling (in the Japanese Army) that the other arms are auxiliary to the infantry was, generally speaking, more platonic than real or deep, and the sequel was divergence in effort, narrow specialism, and finally helplessness.

Technics are only too attractive to officers of the scientific arms, who are sometimes wholly absorbed by them.

When our 75 m. gun, with its non-recoiling carriage, made its appearance and indirect laying became normal, our artillery officers allowed themselves to become absorbed in its technics. This was the first stage only. Now tactics have reasserted their rights, and it has become the rule to play boldly into the hands of the infantry at all costs. This is the second stage.

In 1904, the Japanese artillery was in the first stage. It is evidence enough of the fact that today the Japanese field artillery regulations, like the French, have as their watchword, "All for the infantry."

It is essential for us to realize that *without an advance, there is no victory.*

¶

The General Staff.

It is fortunate for this country that at the present juncture, when for the first time in their history our people are seriously confronted with the necessity for the adoption of a continuing military policy, there should have been in existence an agency peculiarly adapted by constitution and especially qualified by law for the solution of our military problem. Were it not for the existence of the General Staff, it seems impossible that the War Department would be now in a position to present to Congress a complete, well-digested plan for National Defense. Without the coordinating influence of this body, it seems certain that at most there could have been evolved only a scheme weakened by the same divergence of purpose that has characterized the greater part of our past military legislation.

The present task of the General Staff has indeed been a heavy one. Without a historical section, it has been compelled to compile data from the records of our past history which should have been immediately available. It has had to bring into relation to the general scheme the matériel factor without the aid of a section especially constituted to consider that phase of the question from an organizational and tactical rather than a technical point of view. It has, moreover, had to solve these problems while burdened with its manifold other duties.

The farsightedness of the founders of the General Staff finds ample justification in the ability which it has conferred upon the military establishment to meet the demands of the present situa-

tion. For the future, we can only hope that the scope of action and the personnel of an institution of such demonstrated value will be enlarged to qualify it to handle more in detail the many questions which require attention.

In time of peace, it is thus evident that a general staff is an absolute necessity for the unified preparation which will bear its fruit in the emergency of war. This necessity, of course, becomes more apparent when that emergency occurs. To convince ourselves of this fact, we have but to turn our eyes from our own problem for a moment and consider the influence of the general staffs of the different belligerents on the course of the military operations of the present war. Professor Johnston had this influence in mind when he recently stated in the *New York Tribune,* "One million Austrians under the direct control of the German General Staff . . . might well be worth 1,500,000 under less efficient control." He might have gone much further without exceeding the bounds of conservatism; an ounce of coordinated effort is worth many pounds of dispersion. The strength of a confederation is more than doubled by a common control of the forces of the confederated powers.

We believe that the service at large may rest assured that the General Staff will present a project which has considered every phase of the military question and the organizational necessities of all arms of the service. If the plan presented be found incomplete or defective, it should be borne in mind that the question of the development of a military policy has occupied our attention only in comparatively recent years. The movement for preparedness has only a short history behind it. Perfection in this direction, as in any other, cannot be accomplished at a single bound. It is sufficient at the present time that the project evolved should embody sound general principles which it will be the work of the future to modify and perfect. Such a project should receive the united support of the entire service, regardless of particular views to which individuals may be wedded.

The General Staff was instituted for the purpose of coordinating the different agencies of land defense. All branches of the service enter into its composition, and it is therefore qualified to consider all aspects of the military problem. To it alone, therefore, can we look for the evolution of a unified project which will harmonize all agencies of land defense and subordinate each to the execution of a common purpose.

THE UNITED STATES INFANTRY ASSOCIATION

"The object of the Association shall be to promote the efficiency of the Infantry arm of the military service of our country by maintaining its best standards and traditions, by fostering esprit de corps, by the dissemination of professional knowledge, and by the exchange of ideas as to the utilization of such knowledge with particular reference to the rôle of infantry in modern war."—Article III of the Constitution.

OFFICERS.

President:

Colonel Edwin F. Glenn, Infantry.

Vice-President:

Lieut.-Colonel B. A. Poore, Infantry.

Secretary and Treasurer:

First Lieut. G. A. Lynch, Infantry.

Additional Members of Executive Council:

Lieut.-Colonel W. M. Wright, Infantry.
Lieut.-Colonel James H. McRae, Infantry.
Major W. S. Graves, Infantry.
Major E. Sigerfoos, 7th Infantry.
Captain George H. Estes, 20th Infantry.
Captain Hugh A. Drum, 23d Infantry.

CONDITIONS OF MEMBERSHIP.

All commissioned officers in good standing, or former commissioned officers of honorable record of the regular or volunteer military or naval service and of the organized militia are eligible for regular or associate membership in the Association. Membership dates from the first day of January or July nearest the date of enrollment.

Dues are $1.00 annually, payable in advance. Payment of dues entitles a member to all the privileges of his class and to all ordinary publications of the Association except the INFANTRY JOURNAL, to which subscription is extra. Members, however, may obtain the JOURNAL for $2.00 the first year, and $1.00 yearly thereafter.

All communications should be addressed to the Secretary, United States Infantry Association, Room 518, Union Trust Building, Washington, D. C.

THE INFANTRY PRIZE.

FIRST PRIZE:
One Hundred Dollars in Cash and Life Membership in the Infantry Association.

SECOND PRIZE:
Fifty Dollars in Cash.

Title for 1916 Essay:

"Method of Training Troops So As to Graduate Trained Men into the Army Reserve after Two Years' Service with the Colors."

Rules:

1. The competition shall be open to regular members of the U. S. Infantry Association. These, according to the Constitution, are:

a. Officers of Infantry, active or retired, of the Regular Army, the Porto Rico Regiment, and the Philippine Scouts; officers of the Staff Corps appointed from the Infantry.
b. General officers of the Regular Army.
c. Former commissioned officers of Infantry, regular or volunteer.

2. The essay must contain not less than 4,000 words nor more than 8,000, including all tables and appendices. The manuscript must be submitted typewritten and in duplicate, but where a member in submitting his essay states that it has been impracticable for him to comply with this requirement, a manuscript submitted in longhand and in single copy will receive due consideration.

3. It must be a distinct contribution to knowledge, accurate and practical. It is the purpose in offering these prizes to require more than an average degree of excellence. Where policies or methods are not in conformity with existing laws or regulations, the supposed defects in these must be pointed out and the remedy suggested.

4. Manuscripts must be received in the office of the INFANTRY JOURNAL on or before March 1 of each year, in order that the prizes, if any, may be awarded, and the result announced in the May-June issue of the JOURNAL. The manuscripts must be signed with a *nom de plume*, and the name and address of the writer enclosed with the manuscript in a separate, sealed envelope, the outside of the envelope bearing the same *nom de plume* as the manuscript.

5. Immediately after March 1 a committee will be appointed to decide upon the relative merits of the essays submitted. The author of the one considered worthy of the first prize will be allotted $100 in cash and life membership in the Infantry Association; to the one deemed worthy of the second prize $50 in cash. Should none submitted be deemed worthy of first or second prize, the committee may in its discretion give the best one submitted "honorable mention."

6. All manuscripts submitted will become the property of the U. S. Infantry Association, which reserves the right to publish them in the INFANTRY JOURNAL, or dispose of them in any other manner it sees fit.

7. Members shall be debarred from competing after having won the first prize twice.

Appointment of Officers.

At a meeting of the Executive Council, held in Washington, September 13, 1915, Captain Hugh A. Drum, 23d Infantry, and First Lieut. G. A. Lynch, Infantry, were appointed members of the Executive Council, vice Major J. K. Miller, 9th Infantry, and Major I. L. Hunt (Captain, Infantry) resigned. First Lieut. G. A. Lynch was appointed Secretary and Treasurer, vice Colonel William P. Evans, U. S. A., resigned.

New Members.

Dabney, H. Harold, 2d Lieutenant, 14th Infantry.
Davidson, Lewis C., 2d Lieutenant, 21st Infantry.
Eberts, M. M., 2d Lieutenant, 3d Infantry.
Esteves, Luis R., 2d Lieutenant, 23d Infantry.
Felker, Luther, 2d Lieutenant, 3d Infantry.
Graves, Sidney C., 2d Lieutenant, 16th Infantry.
Hunt, J. B., 2d Lieutenant, 16th Infantry.
Johnson, H. F., Major, Illinois National Guard.
Keliher, John, 2d Lieutenant, 30th Infantry.
Macdonald, Stuart C., 2d Lieutenant, 11th Infantry.
McGill, John F., Major, U. S. Marine Corps.
McNarney, J. T., 2d Lieutenant, 21st Infantry.
Merillat, L. A., Jr., 2d Lieutenant, 3d Infantry.
Murphy, J. Monroe, 2d Lieutenant, 3d Infantry.
Parkinson, Parley I., 2d Lieutenant, 20th Infantry.
Peebles, William B., 2d Lieutenant, 10th Cavalry.
Pulsifer, George, 2d Lieutenant, 23d Infantry.
Reaney, J. H., 2d Lieutenant, 20th Infantry.
Ryder, Chas. W., 2d Lieutenant, 30th Infantry.
Sherburne, E. G., 2d Lieutenant, 28th Infantry.
Stratemeyer, Geo. E., 2d Lieutenant, 7th Infantry.
Taylor, T. F., 2d Lieutenant, 19th Infantry.
Walton, Leo A., 2d Lieutenant, 10th Cavalry.

Annual Meeting—Election of Officers.

The Annual Meeting of the Infantry Association will be held at the office in the Union Trust Building at 5 p. m., Thursday, December 16, 1915. The election of officers will be held, and all ballots must be received by that time in order to be counted.

It is considered desirable that one member of the Council should be from each of the branches of Fort Leavenworth and West Point, and that the other members of the Council be selected from among the officers stationed in or near Washington, so that a quorum may easily be called for the transaction of business.

All regular members of the Association are entitled to vote for the election of officers, and may vote for any individual they desire. Committees on nomination were designated, and the following tickets have been named. Ballot will be found on back of this page.

Washington Branch:

Vice-President: Lieut.-Colonel W. M. Wright, Inf., vice Poore
Council: Major Wm. C. Bennett, Inf., vice Wright
Major J. W. Heavey, Inf., vice McRae
Captain H. A. Drum, 23d Inf., vice Miller (Leavenworth)
Lieutenant G. A. Lynch, Inf., vice Hunt.

West Point Branch:

Vice-President: Lieut.-Colonel W. M. Wright, Inf., vice Poore
Council: Major C. S. Farnsworth, 16th Inf., vice Wright
Major J. W. Heavey, Inf., vice McRae
Captain H. A. Drum, 23d Inf., vice Miller (Leavenworth)
Lieutenant G. A. Lynch, Inf., vice Hunt.

Leavenworth Branch:

Vice-President: Lieut.-Colonel W. M. Wright, Inf., vice Poore
Council: Major Wm. C. Bennett, Inf., vice Wright
Major J. W. Heavey, Inf., vice McRae
Captain H. A. Drum, 23d Inf., vice Miller (Leavenworth)
Lieutenant G. A. Lynch, vice Hunt.

The United States Infantry Association

BALLOT

For VICE-PRESIDENT and members of EXECUTIVE COUNCIL for the term of two years, beginning January 1, 1916.

Vice-President:

1 .....

Council:

1 .....

2 .....

3 .....

4 .....

Signed .....

Rank .....

This ballot should be filled in with five names of eligibles in order of election desired by the member voting, and detached and mailed to the Secretary.

INFANTRY REGIMENTS ARRANGED ACCORDING TO THEIR PERCENTAGE OF MEMBERSHIP IN GOOD STANDING IN THE ASSOCIATION.

Third Fifth Tenth Twenty-ninth Thirtieth	**100 per cent.**
Seventh Thirteenth Twentieth Twenty-sixth	**96 per cent.**
First Eleventh Twenty-second	**94 per cent.**
Eighth Twelfth Sixteenth Twenty-first Twenty-fifth Twenty-eighth	**92 per cent.**
Second Fourteenth Fifteenth Twenty-seventh	**90 per cent.**
Eighteenth Twenty-fourth	**88 per cent.**
Seventeenth	**86 per cent.**
Ninth Ninteenth Twenty-third	**84 per cent.**
Fourth Sixth	**82 per cent.**
Porto Rico	**72 per cent.**

Infantry Journal Advertiser

GENTLE HINTS, No. 17

WASHINGTON, D. C., November 1, 1915.

1. In the complexities of our modern world the individual counts for little. It is cooperation that wins success.

2. The object of the INFANTRY ASSOCIATION and of the INFANTRY JOURNAL is to induce cooperation, cooperation of the Infantry, of the Army, of the Nation. There is no interest of one of these that is not also an interest of the others.

3. This is an object of this department, no less than of any other of the magazine. Our members and our advertisers have the same interests: let us help each other.

4. The advertising pages of the INFANTRY JOURNAL are limited. We seek advertisements only of such articles as are necessary or desired by practically every member of the ASSOCIATION. We seek them only from firms whose reliability is unquestioned and can be guaranteed by us. Unsought advertisements are accepted only after submission to duly constituted authorities of the ASSOCIATION. We guarantee the satisfaction promised in advertisements accepted by us.

5. Whenever our members need any of a class of articles advertised by us they should buy those that are advertised in these pages. They should ask for them at their Post Exchange. If their Post Exchange cannot supply what they want they should write direct to the advertisers or direct to us. This will tend toward cooperation. It will help us all.